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Child Health and Mortality in Sub-Saharan Africa

An Annotated Bibliography from the 1975-86 Literature

Santé et mortalité infantiles en Afrique subsaharienne

Bibliographie annotée de la documentation de 1975 à 1986

Bibliography Series
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Compiler/Compilatrice:
Fiona Mackenzie

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Foreword

Infant deaths account for 40% or more of all deaths in developing countries. Although initial reductions in mortality can often be achieved through health technology, it is now recognized that sustained reductions in infant mortality can be achieved more effectively through programs that address the biomedical, socioeconomic, cultural, and environmental determinants of infant mortality. The design and implementation of programs that include socioeconomic development and behavioural change require the collaborative efforts of researchers from various disciplines, including health scientists, nutritionists, social scientists, demographers, and educators.

In its attempts to encourage the interdisciplinary study of infant and child health and mortality, the Population, Health, and Development project of IDRC undertook the preparation of this bibliography, *Child Health and Mortality in Sub-Saharan Africa*. The bibliography was compiled by Fiona Mackenzie and is intended as a working document for those concerned with interdisciplinary approaches to the persistent problem of infant and child mortality.

Anne V. Whyte
Director
Social Sciences Division
IDRC

Avant-propos

Dans les pays en développement, la mortalité infantile compte pour 40 % ou plus de tous les décès. Bien que la technique sanitaire permette souvent de réduire le taux de cette mortalité, on reconnait aujourd'hui qu'il faut, pour maintenir la réduction, mettre en oeuvre des programmes qui s'attaquent aux déterminants de la mortalité infantile, qu'ils soient biomédicaux, socioéconomiques, culturels et environnementaux. Or, la conception et la mise en place de programmes qui visent, entre autres, le développement socioéconomique et le changement des comportements, exigent la collaboration de chercheurs de diverses disciplines : sciences de la santé, nutrition, sciences sociales, démographie, éducation.

Dans un effort pour encourager la recherche interdisciplinaire sur la santé et la mortalité infantiles et juvéniles, le Projet du CRDI sur la population, la santé et le développement a fait préparer la présente bibliographie : *Santé et mortalité infantiles en Afrique subsaharienne.* Compilée par Fiona Mackenzie, celle-ci sera un outil de travail pour tous ceux qui voient dans les approches interdisciplinaires une solution au problème persistant de la mortalité infantile et juvénile.

Anne V. Whyte
Directrice
Division des sciences sociales
CRDI

Preface

The main objective of this bibliography is to draw together recent literature on the subject of infant and child health and mortality in sub-Saharan Africa, from both social science and health science disciplines, with a view to facilitating multidisciplinary research in this field. It is intended as a working document for researchers, practitioners, and policymakers, giving an indication of the diverse nature of the literature and of alternative conceptual and methodological approaches to research. In addition, it identifies gaps that need to be filled before practice and policy are more firmly grounded in theoretical perspectives congruent with specific African environments.

The bibliography does not pretend to be definitive. An effort has been made to draw on a wide range of material available, not only international publications, but also research findings of more local distribution. In the latter context, the contributions sent by individual researchers in Africa have been valuable additions. With respect to the former, data bases and bibliographies consulted include AGRICOLA; BIBLIOL, the IDRC Library data base; International Children's Centre, Paris; CAB Abstracts; EMBASE; FRANCIS; PASCAL; POPLINE; Population Bibliography; the Population Information and Documentation System for Africa (PIDSA); and SALUS, a data base on low-cost rural health care and health personnel training compiled by IDRC.

The major criterion that guided the selection of documents for the bibliography was their relevance to a multidisciplinary inquiry into infant and child health. Thus, the bibliography draws on research from the fields of agriculture, anthropology, community medicine, demography, economics, epidemiology, geography, nutrition, pediatrics, political science, and sociology as these relate to the topic and in particular as they attempt to bridge the conceptual divide between the health and social sciences. In some cases, more than one publication by an author may be cited, even when these are quite similar, because of possible difficulties in obtaining documents. Except where a document was considered to be of classical significance, the bibliography is restricted to publications from 1975 onward. Some material of general importance is included, although the main subject matter pertains to sub-Saharan, intertropical Africa.

In terms of organization, entries are listed alphabetically by author and numbered accordingly. All documents are indexed by subject, in many cases under several headings. There are also geographic and author indexes. Documents are identified in these indexes by number.

With respect to the annotation of entries, preference was given to an abstract or summary written by the author(s). As necessary, this abstract was abbreviated or modified to provide more systematic coverage. Where such an abstract was unavailable, but an abstract was available from another bibliographic source, this was frequently used. Where no suitable abstract was available, one was written by the compiler. The source of the abstract is identified at the end of each entry. In all cases, the abstracts appear in the language of the entry, having been translated as necessary.

The preparation of the bibliography has received the support of many people: IDRC staff in Ottawa and Nairobi and individual researchers. Particular thanks are given to the staff of the Library, Communications Division, and Information Sciences Division at IDRC, Ottawa.

All entries listed in the bibliography, with the exception of those marked with an asterisk, are located in the IDRC Library. Researchers are encouraged to try to obtain copies of documents locally. If necessary, requests may be forwarded to IDRC Library, P.O. Box 8500, Ottawa, Ontario, Canada K1G 3H9. Subject to copyright restrictions, and within reasonable limits, photocopies or microfiches of documents listed in the bibliography may be supplied by the library. Where this is not possible, the library will endeavour to provide information on how to obtain the documents requested.

Préface

Cette bibliographie est d'abord et avant tout un répertoire de la documentation récente produite par les sciences sociales et les sciences de la santé sur la santé et la mortalité infantiles en Afrique subsaharienne. Son but est de faciliter la recherche multidisciplinaire sur le sujet. Conçue comme document de travail à l'intention des chercheurs, des praticiens et des décideurs, elle donne une idée de la diversité de la documentation et aussi des façons de concevoir une recherche et de l'exécuter. De plus, elle indique les lacunes à combler avant que la pratique et les politiques ne soient plus solidement ancrées dans des perspectives théoriques reflètant tel ou tel milieu africain.

La bibliographie n'est pas définitive. Un effort a été fait pour répertorier une vaste gamme de documents, non seulement les documents parus dans les publications internationales, mais aussi les résultats de recherche à diffusion beaucoup plus restreinte. À ce dernier égard, les contributions individuelles de chercheurs en Afrique ont constitué d'utiles additions. Au plan des publications internationales, les bases de données et bibliographies suivantes ont été consultées : AGRICOLA; BIBLIOL, base de données de la bibliothèque du CRDI; Centre international de l'enfance, Paris; CAB Abstracts; EMBASE; FRANCIS; PASCAL; POPLINE; Population Bibliography; Population Information and Documentation System for Africa (PIDSA); et SALUS, base de données sur les soins de santé à faible coût dans les régions rurales et la formation du personnel sanitaire établie par le CRDI.

Le critère principal de choix des documents à inclure dans la bibliographie a été l'intérêt qu'ils présentent pour la personne désireuse de faire une enquête pluridisciplinaire sur la santé des nourrissons et des enfants. Donc la bibliographie contient des documents de recherche en agriculture, anthropologie, médecine communautaire, démographie, économie, épidémiologie, géographie, nutrition, pédiatrie, science politique et sociologie qui traitent d'une manière ou d'une autre du sujet de la bibliographie et, particulièrement, tentent de rapprocher la santé et les sciences sociales. Dans certains cas, plus d'une publication d'un même auteur sont données en dépit de leur grande similitude parce qu'elles risquent de ne pas être faciles à obtenir. Sauf pour les documents jugés classiques, la bibliographie se limite aux publications parues depuis 1975. Elle contient quelques documents généraux bien qu'elle porte surtout sur l'Afrique subsaharienne intertropicale.

Les entrées sont présentées par ordre alphabétique des auteurs et numérotées de la même façon. Tous les documents sont indexés par sujet et, dans beaucoup de cas, figurent aussi sous plusieurs vedettes-matières. Il y a également index des auteurs et un index géographique. Les documents sont identifiés dans les index par leur numéro.

Quant à l'annotation des entrées, la préférence a été accordée à un résumé des auteurs. Au besoin, ce résumé a été abrégé ou modifié par souci d'uniformité. Faute d'un résumé par l'auteur, un résumé trouvé dans une autre source bibliographique a souvent été employé. En l'absence d'un résumé utilisable, la compilatrice en a rédigé un. L'origine du résumé est donnée à la fin de chaque entrée. Le résumé est toujours dans la même langue que l'entrée. Il a, au besoin, été traduit.

Beaucoup de personnes ont contribué à la réalisation de la bibliographie : le personnel du CRDI à Ottawa et à Nairobi et les chercheurs. Nous remercions plus particulièrement le personnel de la bibliothèque et des divisions des communications et des sciences de l'information du CRDI à Ottawa.

Tous les documents répertoriés dans la bibliographie, sauf ceux marqués d'un astérisque, se trouvent à la bibliothèque du CRDI. Les chercheurs devraient d'abord tenter d'obtenir localement un exemplaire des documents voulus. Au besoin, des demandes peuvent être envoyées à : Bibliothèque du CRDI, C.P. 8500, Ottawa, Ontario, Canada K1G 3H9. Sous réserve des restrictions du droit d'auteur et dans les limites du raisonnable, la bibliothèque fournira des photocopies ou des microfiches des documents répertoriés dans la bibliographie. Si elle ne le peut, la bibliothèque s'efforcera d'indiquer où s'adresser pour obtenir les documents voulus.

Bibliographic Index/Index bibliographique

001 Aaby, P. *Observing the unexpected: nutrition and child mortality in Guinea-Bissau.* Paper presented at the IUSSP Seminar on Micro-Approaches to Demographic Research, Australian National University, Canberra, AU, 3-7 Sep 1984. 22p. (48 refs.)

§ The author discusses the implications for research methodology of his finding that, contrary to widespread assumptions in research, there is a lack of correlation between nutritional status and infant and child mortality due to measles infection. Analysis, based on data collected in Guinea-Bissau, suggests that overcrowding is a major determinant of measles mortality. Data indicate that mortality from measles is higher in homes where there are several cases, and that fatality is higher for secondary cases of measles (where the infection is caught inside the home). Analysis also shows that measles vaccination is strongly associated with a decrease in mortality. The author argues that, although observing the unexpected cannot be planned, certain features in research design can facilitate the recognition and analysis of anomalies. These include interdisciplinary research where the assumptions of one discipline may be questioned by the researchers of another discipline; the use of a combination of data collection methods, in particular, general longitudinal surveys combined with intensive, open-ended interviews or participant observation; the collection of data which can be reorganized at different levels of aggregation. (F.M.)

002 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1983. *Measles mortality, state of nutrition, and family structure: a community study from Guinea-Bissau.* Journal of Infectious Diseases, 147(4), 693-701 (tables, 34 refs.) ISSN 0022-1899

§ In an urban area of Guinea-Bissau where the general state of nutrition seemed fairly good, the case fatality rate for measles among children less than 3 years of age who were examined clinically during an epidemic in 1979 was 25.0%. Nutritional indicators (weight-for-age, height-for-age, and weight-for-height ratios) measured a few months before the epidemic were about equal for the group of 60 children who subsequently died of measles and for the general child population. Because no community study has demonstrated that the nutritional state influences the outcome of measles, the assumed importance of the state of nutrition for measles fatality rates is questioned. Children in monogamous households had a lower risk of dying of measles. It is suggested that measles may be more severe in polygamous families because several children can have the disease simultaneously. Data thus indicate an important association between family structure (the type of marriage and spacing pattern between births) and the severity of measles. This is due to increased rates of intercurrent infection, a greater dose of the virus, or both. (AU modified)

003 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J., Gomes, J., Fernandes, M.A., Indi, F., Soares, M. 1984. *Determinants of measles mortality in a rural area of Guinea-Bissau: crowding, age and malnutrition.* Journal of Tropical Pediatrics, 30(3), 164-168 (tables, 27 refs.) ISSN 0142-6338

§ Malnutrition has been considered the major determinant of high measles mortality. Data from a rural area of Guinea-Bissau suggest that overcrowding and age may be more important as determinants than nutritional status. Case fatality rate (CFR) was significantly higher in houses with several cases than in homes with only a single case. Measles vaccination may contribute to increased survival rates by limiting the number of infections, raising the mean age of attack, and by impeding clustering of cases. Most cases (66%) occurred during the dry season. CFR for children under 5 years of age was 33.7%, and for children 5 years and older 6.6%. The highest CFR was observed for children 0-11 and 12-23 months of age, 46.7% and 52.4% respectively. (POPLINE)

004 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1984. *Measles vaccination and reduction in child mortality: a community study from Guinea-Bissau.* Journal of

Infection, 8(1), 13-21 (tables, 23 refs.)

§ Earlier studies have suggested that general measles vaccination programs should not be made a priority in developing countries because the presumably malnourished children saved from measles are likely to die from something else. Recent community studies indicate, however, that malnutrition is not the cause of high measles mortality. In an urban community in Guinea-Bissau, child mortality has been registered for a period of 3 years: 1 year before and 2 years after the introduction of a general measles vaccination program. In the years following the introduction of measles vaccination, mortality for children aged 6 to 35 months has significantly diminished. Though this is not a controlled study of vaccinated and unvaccinated children, much of the reduced mortality can apparently be attributed to the protective effect of measles vaccination. Children with a history of earlier measles infection had a significantly higher mortality rate than children vaccinated against measles. Rather than being a mechanism of natural selection taking the weakest children, measles apparently aggravates the condition of many children, leading to delayed excess mortality. In areas where the case fatality rate is high, vaccination against measles should be made an indispensable part of primary health care. (AU)

005 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1984. *Risk factors in subacute sclerosing panencephalitis: age- and sex-dependent host reactions or intensive exposure?.* Reviews of Infectious Diseases, 6(2), 239-250 (tables, 115 refs.) ISSN 0162-0886

§ The central epidemiologic features of subacute sclerosing panencephalitis (SSPE) - young age of measles attack and overrepresentation of males - are usually explained as resulting from age- and sex-dependent host reactions. In this report, an alternative hypothesis is offered: intensive exposure, presumably due to the dose of infection, is a risk factor in the pathogenesis of SSPE. A hypothetical model of the influence of age and sex on the transmission of measles is suggested. According to this model, girls are exposed to measles more easily outside the home, whereas boys have a greater risk of being intensively exposed within the home. Furthermore, small children are most likely to be exposed to measles at home. Consistent with this model is the fact that all studies indicate that female SSPE patients contract measles at a younger age than do male patients. Reports in the epidemiologic literature suggest that several characteristics of SSPE may result, not from host reactions per se, but from the distribution of intensive exposure to measles. (AU)

006 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1984. *Overcrowding and intensive exposure as determinants of measles mortality.* American Journal of Epidemiology, 120(1), 49-63 (tables, 41 refs.)

§ Data from a 1979 measles epidemic in an urban district of Guinea-Bissau indicate that state of nutrition is not a major determinant of outcome of infection. However, overcrowding increases the risk of early infection and the severity of disease. In instances in which several children have measles simultaneously, the case fatality rate is significantly higher than for isolated cases. This tendency is apparently a result of intensity of exposure; within the same house, secondary cases have a much higher age-specific case fatality rate than index cases. It is suggested that the association between intensive exposure and severity of infection may be due to increased rate of intercurrent infection, a greater dose of infection, or both. Because it is not only the malnourished children who die of measles, vaccination may have a greater importance for survival patterns than has previously been assumed. (AU)

007 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1985. *Reduced clustering of infection as a factor in measles mortality decline: evidence from African community studies.* 26p. (tables, 52 refs.)

§ In the present study from an urban district in Guinea-Bissau, it was found that the case fatality rate in measles diminished significantly in the two years following the introduction of vaccination. The decline in fatality occurred in spite of an increasing frequency of low weight-for-age and a younger age at infection. The fall in the case fatality rate corresponded to a fall in the frequency of families with several cases of measles. A comparison between the urban district and a rural area inhabited by the same ethnic group indicates that age of infection, degree of clustering of cases, and case fatality rates are higher in the rural area. A review of African community studies of measles similarly shows that urbanization and vaccination are associated with reduced case fatality rate. The longer interepidemic interval in rural districts leads to a higher degree of clustering of cases, and this may be one reason for the higher case fatality rate usually found in rural outbreaks. Measles vaccination may contribute to reducing child mortality, both by limiting the number of cases, and by reducing the number of co-occurring cases, thereby lowering the case fatality rate for the remaining cases. (AU)

008 Aaby, P., Bukh, J., Smits, A.J., Lisse, I.M. 1985. *The black child's grave: measles, overcrowding and child mortality in Africa.* 43p. (tables, 89 refs.)

§ In Guinea-Bissau, studies have shown that malnutrition is not an important determinant of child mortality in measles infection. From this perspective, the literature on community studies of measles in Africa is reviewed. The commonly assumed importance of malnutrition for outcome of measles infection is not supported by these studies. Instead, there are indications that measles is more severe where there is a clustering of cases. High dose of infection and higher rates of intercurrent infection under overcrowded conditions may be the underlying cause of the association between clustering and severe disease. Overcrowding may be a risk factor in other infections as well; the case of whooping cough is discussed. This means that institutions that bring many children together may increase child mortality. In support of this view, several studies suggest that extended family arrangements, polygamy, and high birthrate entail an increased risk of child mortality. Regional differences in mortality may therefore be related to differences in the crowding pattern. (AU)

009 Aaby, P., Bukh, J., Hoff, G., Lisse, I.M., Smits, A.J. 1986. *Cross-sex transmission of infection and increased mortality due to measles.* Review of Infectious Diseases, 8(1), 138-143 (tables, 29 refs.) ISSN 0162-0886

§ In an urban and a rural area of Guinea-Bissau, the incidence of and mortality due to measles were followed over 4 years. Significantly higher case-fatality ratios among secondary cases occurred when infection was transmitted across sexes than within the same sex. The case-fatality ratio was highest for girls infected by boys and lowest for girls infected by girls. Published reports of cases of fatal measles indicate a similar tendency. Apparently, no general background factor or difference in social interaction between children can explain this variation in severity of infection. It is therefore hypothesized that cross-sex transmission of measles virus produces infections of greater severity. These observations may suggest that measles virus incorporates host-specific cellular characteristics that interfere with the immune responses of persons infected by a member of the opposite sex. (AU)

010 Aaby, P., Bukh, J., Lisse, I.M., Smits, A.J. 1986. *Severe measles in Sunderland, 1885: a European - African comparison of causes of severe infection.* International Journal of Epidemiology, 15(1), 101-107 (tables, 31 refs.)

§ On the basis of research in Guinea-Bissau, this paper reanalyzes a severe measles epidemic that occurred in 1885 in Sunderland (England). In both England and Guinea-Bissau, acute measles mortality was higher in households with multiple cases than in families with only a single case of measles. Secondary cases (infected in the house) had higher mortality and higher frequency of severe complications than index and single cases. In Sunderland, severe complications were associated with a history of previous respiratory infection and with greater number of siblings. Because cases with severe complications had significantly prolonged prodromal symptoms and shorter periods of incubation, it is suggested that high dose of infection may be an essential mechanism in the pathogenesis of severe disease. Overcrowding may be a major determinant of severe measles because it increases risks from intensive exposure, intercurrent infections, and previous respiratory infection. (AU)

011 Abakada, A.O., Hussain, M.A. 1980. *Nutritional status and dietary intake of lactating Yoruba mothers in Nigeria.* Ecology of Food and Nutrition (London), 10(2), 5-111 (tables, 43 refs.)

§ Nutrient intake was assessed for 75 rural and 25 urban, apparently healthy, lactating women of poor socioeconomic background in the area of Ibadan, Nigeria. The nutritional status of the mothers and of the infants, on a monthly basis from age 3 weeks to 6 months, was also studied. The maternal diet was found to be adequate in iron, thiamin, calcium, and vitamin A, but inadequate in energy, protein, riboflavin, and ascorbic acid. In spite of this, the body weights of the women were near normal and weight-for-age of the infants was 85-100% of the standard. This paper describes the study methods and presents and discusses its results. (SALUS)

012 Abbadui Maïti, S. 1979. *Causes de mortalité infantile au Mali : enquête rétrospective auprès des mères d'enfants décédés (mortalité infantile).* Les Cahiers de l'analyse des données, 4(1), 49-59 (tables, fig.)

§ Le but de cette étude est de mieux connaitre les niveaux et tendances préexistants de la fécondité et de la mortalité infantile dans une zone du Mali où débutait une action de soins de santé primaires et de développement communautaire, basée sur la participation active des collectivités locales. Il s'agit d'une enquête par questionnaire auprès de 811 femmes de 11 villages dans un arrondissement du cercle de Kolokani. Après l'analyse factorielle des données, l'auteur conclut que les enquêtes rétrospectives par questionnaires à condition d'être menées avec rigueur, en prenant soins d'établir les liens de confiance réels avec les sujets interrogés et de se placer dans le contexte temporel et linguistique local peuvent fournir des renseignements cohérents et dignes d'intérêt; et que l'analyse suggère certaines mesures susceptibles dans un avenir assez immédiat, d'apporter une contribution importante à la réduction de la mortalité des enfants. (AU modifié)

013 Abbas, A.S. 1978. *The health and nutrition aspect of the drought in Somalia.* Ministry of Health, Mogadishu, SO. 194p. (tables, ill., 38 refs.)

§ In this book, the author draws together and discusses information on aspects of the 1974-75 drought in Somalia. Details are given on the drought, relief operations, the resettlement program, and health services in the area. Data on feeding practices and the anthropometric measurements for children up to 12 years of age are presented. Policy recommendations are made with respect to the surveillance of child health and nutrition, a national food policy, and a primary health care system. (F.M.)

014 Abbas, A.S. ed. 1981. *Child in Somalia.* Conference of the International Year of the Child, Mogadishu, SO, 29-30 June 1979. Ministry of Health, Mogadishu, SO. 101p (ill., tables, figs.)

§ In addition to the preface and recommendations, these proceedings contain the texts of nine papers presented at the conference. Topics covered include child health programs and strategies, education, social problems, the role of UNICEF, female circumcision, and family planning. Many papers contain statistical data. (SALUS)

015 Abdurrahman, M.B., Taqri, A.M. 1981. *Measles immunity and immunization in developing countries of Africa: a review.* African Journal of Medicine and Medical Science, 10(1/2), 57-62 (39 refs.) Fr ISSN 0309-3913

§ Although an effective vaccine against measles has been available for several years, the disease is still prevelant in Africa. The disease is characterized by its occurrence in younger age groups and by high morbidity and mortality. The African child is born with a high transplacentally acquired measles antibody level. However, the antibody level declines rapidly and is virtually absent after the age of 6 months. The measles vaccine with which the African child is immunized is of reduced potency because of poor storage and transportation facilities and the adverse effect of tropical climate on the vaccine. The pattern of measles immunity in Africa is different from that in developed countries. A measles immunization schedule in Africa, as in any other part of the world, must be based on sound epidemiological and serological data. (AU)

016 Abudu, O., Akinkugbe, A. 1982. *Clinical causes and classification of perinatal mortality in Lagos.* International Journal of Gynaecology and Obstetrics, 20(6), 443-447 (tables, 5 refs.) ISSN 0020-7292

§ Perinatal deaths in singleton births at the Lagos University Teaching Hospital during a 5-year period were reviewed. Causes of deaths were classified into eight groups using a modified form of the Aberdeen classification. Perinatal mortality was high (42.5 per 1000 total births). The stillbirth rate was 32.5 per 1000 total births. The major causes of perinatal mortality were trauma (30.5%), low birth weight (23.9%), hemorrhage (13.7%), toxemia of pregnancy (10.3%), and mature, cause unknown (10%). Congenital malformation (4.3%) was not a major cause of perinatal deaths in this study. (AU)

017 Addo, N.O., Goody, J.R. 1976. *Siblings in Ghana.* Population Studies, no.7, Population Dynamics Programme, Institute of Statistical, Social and Economic Research, University of Ghana, Legon, GH. 116p. (tables, 9 refs.)

§ The main purpose of this study was to test the hypothesis that, in the context of the specific relationship between strategies of reproduction and the productive system in societies in Ghana, no preference is given to children of one sex over another. Data were collected from a sample of 9392 mothers who were administered a questionnaire. The sample was drawn from all regions of Ghana except northern; 64.2% of the sample was urban, 35.8% rural. Data were collected on social characteristics of the mother; structure and demographic characteristics of sibling groups; mortality among uterine sibling groups; attitudes to family size and composition. Analysis indicated that, in contrast to many assumptions about fertility behaviour in African societies, there is a lack of evidence for any expressed preference for sons or daughters. This preference was unaffected by maternal characteristics. When the data were disaggregated according to lineality or rural or urban residence, there was a slight tendency to favour males as a first child and females as last. The explanation for the recorded fertility behaviour is related to type of socioeconomic formation and an economy based on agriculture where land is not a scarce resource. The final chapter discusses the practical and theoretical implications of the research. (F.M.) *

018 **Adegbola, O.** 1977. *New estimates of fertility and child mortality in Africa, south of the Sahara.* Population Studies, 31(3), 467-486 (tables, maps, 38 refs.) ISSN 0032-4728

§ Earlier work by Page and Coale had estimated demographic indices of fertility and mortality for parts of Africa using the Sullivan modification of Brass' technique. This paper presents modified and more accurate estimates of fertility and child mortality, not only for the subnational units covered by Page and Coale but also for areas not covered by them. This analysis, which employs Trussell's refinement of Brass and Sullivan's techniques, also includes improvements overlooked in earlier estimates. The salient finding that emerges is that, although the Brass mortality technique is very powerful, his equally ingenious fertility technique is very weak and should not be relied upon for estimating fertility parameters. (PIDSA)

019 **Adegbola, O., Chojnacka, H.** 1984. *Causes of death in Lagos: structure and change.* African Journal of Medicine and Medical Science, 13(1-2), 71-83 (tables, 11 refs.) Fr ISSN 0309 3913

§ An analysis of the changing structure of causes of death in the city of Lagos between 1965 and 1975 was conducted using registered deaths from the vital statistics system of the Lagos State Ministry of Health. It was found that significant changes in causes of death among the population had occurred during the period. In the 1960s, diseases that killed children were more common than those that killed adults. The most significant feature of these diseases was the sharp contrast between the causes peculiar to neonates (perinatal) on one hand and those common among post-neonates and preschool-age children on the other. Commencing around 1970, however, children-related causes ameliorated considerably and the proportion of adults dying increased. The most important cause of death during this period was accidents. The gap between male and female deaths from accidents is explained, not only by different roles and behaviour of the sexes, but also by men's obsession with high-risk vehicles. But this safety which women enjoyed was countered by increasing mortality from pregnancy complications, a phenomenon associated with higher gravidity in the 1970s. (AU modified)

020 **Adekunle, L.** 1978. *Child immunization - what are the impediments for reaching desired goals in a transitional society?* Social Science and Medicine (Aberdeen, UK), 12(5A), 353-357 (tables, 14 refs.)

§ A survey conducted in Ibadan, Nigeria, revealed that the principal impediments to child immunization were lack of time (principally cited by women engaged in petty trade), vaccine shortages in the clinic or health centre, and parental ignorance of the purpose and effects of immunization. To overcome these obstacles, it is suggested that the government ensure that vaccines are available at all times in facilities offering the service, establish a network of immunization centres (preferably located near marketplaces) on a zonal basis, and encourage all health workers to make an effort to educate parents in the importance of immunization. Survey findings are set forward in four tables. (SALUS)

021 **Adeleye, J.A.** 1982. *A two year study of caesarean section and perinatal mortality at the University College Hospital, Ibadan, Nigeria.* East African Medical Journal, 59(6), 383-389 (tables, 6 refs.) ISSN 0012-835x

§ A prospective study of caesarian section and perinatal mortality conducted at a hospital in Ibadan in 1977 and 1978 revealed an overall perinatal mortality rate of 86.9 per 1000 and caesarean section perinatal mortality rate of 65.1 per 1000 operations. The writer concludes that an improvement in antenatal and intrapartum care would reduce the latter mortality rate. Health education programs that motivate people to make use of existing maternity services would help reduce both mortality rates. (F.M.)

022 Aden, A., Birk, S. 1981. *A study of child mortality in Mogadishu, Somalia.* Journal of Tropical Pediatrics, 27(6), 279-284 (tables) ISSN 0142-6338

§ A brief geographic and demographic sketch of Somalia is followed by a description of the maternal-child care situation in Mogadishu, the capital. The results of a 1977 child mortality survey consisting of interviews of 852 women in Mogadishu and Balad districts, to be used in the development of maternal-child health services, are reported. The mothers, aged 16-44 years, were questioned on their obstetric history and causes of their children's deaths. Stillbirths accounted for 3.2% (119) of the 3774 deliveries. Of the 3655 live births, 25.5% (932) died: tetanus (174, 19.1%) and diarrhea (201, 22.0%) were the major causes of the 913 deaths in children in different age groups, with diarrhea being more prevalent in urban than rural areas, where bottle-feeding is less popular. (SALUS)

023 Adeokun, L.A. 1976. *Health consequences and implications of migration from rural to urban areas.* In Odumosu, O., Aluko, S.A., Adepoju, A., Problems of migration in Nigeria. Proceedings of the Third National Seminar/Workshop on Problems of Migration in Nigeria, Ife, NG, 1976. Caxton Press (West Africa), Ibadan, NG. 71-84 (tables, figs., 23 refs.)

§ One of the results of high rates of migration from rural to urban areas is the aggravation of problems associated with an already inadequate health system. Discussing the consequences of this and the high rates of infant and child mortality in urban areas (e.g. Lagos), the author indicates the need for a restructuring of maternal-child care services in both rural and urban areas. (F.M.)

024 Adeokun, L.A. 1981. *The next child: spacing strategy in Yorubaland (with translations from taped interviews).* African Demography Working Papers, No. 8. Population Studies Center, University of Pennsylvania, Philadelphia, US. 81p. (9 refs.)

§ To investigate patterns of maternal and child care and parental perceptions of child spacing, and to define the relationships among marital sexuality, child development, and birth interval, a series of recorded interviews was carried out as a follow-up to a questionnaire-based survey. Twenty-four interviews were carried out in two Yoruba subgroups. The rationale for the research methodology (with its focus on small-scale demographic processes) is given in the introduction. The body of the report includes transcriptions of eight of the interviews. (F.M.)

025 Adeokun, L.A. 1983. *Early child development and the next child decision.* Genus, 39(1-4), 115-140 (tables, 22 refs.) Fr, It ISSN 0016 6987

§ This paper presents a framework for analyzing the timing of a next-child using information on the early child development of a preceding child. The device employed is a milestone-for-age chart that, unlike the conventional weight-for-age chart, relates the reported mean ideal age at which a group of Yoruba children should attain a number of physical and social development milestones to the chronological age at which such milestones are actually achieved. By relating the percentile distribution of children at the attainment of different milestones to the percentile distribution of next-child pregnancies of a sample of 588 women, the probability of a next-child pregnancy at each milestone was calculated. Findings suggest that the next-child pregnancy is postponed until a situation of equilibrium is reached between the productive and reproductive responsibilities of the mother. (AU modified)

026 Adewuyi, A.A., Feyisetan, B.J. 1985. *Correlates of infant mortality: empirical evidence from Ile-Ife.* Unpublished. 196p. (tables, 73 refs.) Research report submitted to IDRC no. 3-P-81-0122

§ The purpose of the research identified here was to assess the relative effect of antenatal care and maternity centres on the level of infant mortality; and to identify the correlates of such mortality in Ile-Ife. The correlates examined were antenatal care and delivery conditions; maternal and infant nutrition; health and environmental sanitation; biological factors; and socioenonomic factors. The sample population of 2111 mothers was drawn from three groups: those who received antenatal care and gave birth in a maternity centre; those who received antenatal care but gave birth elsewhere; those who neither received antenatal care nor delivered in a hospital or clinic. Data collected in 1980 and 1981 from a two-stage questionnaire and hospital records were subjected to dummy variable regression analysis. The authors conclude that infants of mothers who received antenatal care and gave birth at a clinic had a lower mortality rate than the other two groups. This finding was not, however, supported in all the equations tested. Attention is drawn to the need for further research to identify more specifically the hypothesized determinants of infant mortality and to assess the relative significance of the correlates and their interrelationships. Policy implications of the findings are discussed. (F.M.)

027 Adeyokunnu, A.A., Taiwo, O., Antia, A.U. 1980. *Childhood mortality among 22.255 consecutive admissions in the University College Hospital. Ibadan.* Nigerian Journal of Paediatrics, 7(1), 7-15 (tables, figs., 22 refs.)

§ To evaluate the pattern of childhood mortality at the University College Hospital, Ibadan, Nigeria, this study analyzes the recorded cause of 3190 deaths, 14% of 22,255 admissions over the 5-year period, 1969-73, and compares the figures with a similar study of pediatric deaths from 1964 to 1966 at the same hospital. Although overall mortality has not changed, there has been a significant decline in deaths from tetanus, malaria, measles, and malnutrition. In the present review, 50% of the deaths occurred in the first year of life, 43% in the next 4 years, and 7% in children aged 6-14 years. The need for improvements in health care delivery, nutrition, health education, and immunization against communicable diseases is stressed. (SALUS)

028 Adlakha, A., Nizamuddin, M. 1984. *Mortality data collections: a review of integrated multi-purpose household surveys and multi-round demographic surveys.* In Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 October, 1981. Population Studies, no.84, United Nations, New York, US. 104-114 (tables, 24 refs.) ST/ESA/SER.A/84

§ Two survey approaches to mortality measurement are described: a retrospective approach in which mortality data are collected as part of a multipurpose household survey program, with examples from Kenya, India, and Brazil; a prospective approach, usually solely demographic in purpose, using multiround surveys. The authors suggest that no one method is a panacea and the choice of methodology must depend on the objectives for data collection and the costs involved. Attention is drawn, with respect to single-round surveys, to the use of maternity history (direct) and the survival of children ever born (indirect) data to assess levels, trends, and to some extent differentials in child mortality. The advantages of multiround surveys are evaluated in the context of their greater demand for financial, personnel, and administrative resources. (F.M.)

029 Aguwa, O., Aguwa, M. 1981. *Problems of food and child health in Nigeria.* Rural Africana, 10, 31-40 (27 refs.)

§ The study aims to indicate the food problems arising from inadequacies of domestic agricultural production; to analyze problems related to food and marketing and consumer demands; and to consider the food and nutrition problems of particular population groups. The most critical problems are shown to include decline in subsistence food production; increasing food demand in urban areas, accompanied by market problems and high food prices; inadequate diets for the very poor; seasonal protein-caloric malnutrition; nutritional anemia; infant and child morbidity and mortality (often related to decline in breastfeeding and inappropriate weaning foods); and growth retardation among children, often related to low intake of food energy. (CAB Abstracts abbrev.)

030 Akesode, F.A. 1982. *Factors affecting the use of primary health care clinics for children.* Journal of Epidemiology and Community Health, 36(4), 310-314 (tables, 12 refs.) ISSN 0143-005X

§ Factors affecting the attendance at primary health care clinics in Lagos were studied at Oguntolu Clinic and Randle Road Health Centre among 120 Nigerian children. The level of immunization was a measure of the frequency (regularity) of attendance at the clinics. Certain socioeconomic, psychological, and demographic factors were the major factors affecting attendance. Among those fully immunized, family sizes were low, mothers and fathers were educated, mothers were younger, and a higher proportion of the children were boys. The family health workers were responsible for earlier and regular attendance at the clinic.

Perception of the severity of symptoms of disease was a major psychological factor affecting attendance. A predictive model for the identification of high need but low users and low need but high users is presented to facilitate the formulation of more realistic priorities and policies for primary health care programs. (AU)

031 **Akinkugbe, F.M.** 1980. *Anaemia in a rural population of Nigeria (Ilora).* Annals of Tropical Medicine and Parasitology, 74(6), 625-633 (figs., tables, 16 refs.) ISSN 0003-1983

§ To determine the prevalence of childhood anemia and identify causal factors in a rural part of Nigeria, an examination of 370 children aged 1-10 years was undertaken in Ilora, a village 55 km north of Ibadan. The findings, presented in five tables, revealed that 21.7% of the children were anemic with hemoglobin of 10 g per 100 ml or less, or a hematocrit of 30% or less, while iron deficiency anemia occurred in 41%, with the highest prevalence in children aged 2-3 years. Malarial parasites were found more frequently in anemic than in nonanemic children; of the 191 children (51.6%) with malaria, 16 had severe infections. (SALUS)

032 **Alao, N., Adegbola, O.** 1985. *Urbanization, modernization and recent trends in mortality in Africa: a conspectus.* In International Population Conference, Florence, IT 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 275-286 (10 refs.) Fr ISSN 0254-5217

§ Two major problems constraining the study of mortality in relation to urbanization and modernization in Africa are identified as the absence of cohesive theory and the fragmentary nature of the available data on the subject. The paper attempts to overcome these problems by constructing a simple model which explores various dynamic equilibrium relationships between and among production growth, life expectancy, urbanization and modernization. Empirical tests using regression analyses were carried out. Two very striking trends emerged: urbanization constantly exerts a positive and healthy effect on life expectancy over the period; and food importation correlates negatively with life expectancy. Food importation should thus be seen not as fully making up deficiency in local production but as a good measure of the eventual unfulfilled food requirement. (AU modified)

033 **Alleyne, G.A.O., Hay, R.W., Picou, D.I., Stanfield, J.P., Whitehead, R.G.** 1977. *Protein-energy malnutrition.* Edward Arnold, London, GB. 244 p. (tables, figs., 860 refs.) Report no. 0 7131 4285 5

§ Directed at postgraduate doctors and scientists, this introductory textbook draws from Caribbean and African experiences to cover the major aspects of protein-energy malnutrition (PEM). The authors classify PEM and describe the clinical features of marasmus and kwashiorkor. The ecology of the disease is discussed, with emphasis on the role of nutrition, social factors, family size, and poverty. Pathological, biochemical, and physiological aspects are also covered. The interaction between infection and PEM, the treatment of severe forms of the disease, the effect on growth, and methods of assessing nutritional status are among other topics covered. The final chapter evaluates prevention and rehabilitation measures. (SALUS)

034 **Allman, J., Rohde, J.** 1981. *Infant mortality in relation to the level of fertility control practice in developing countries.* In Proceedings of the International Population Conference, Manila, PH, 1981, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 97-112 (tables, figs., 38 refs.) Fr

§ After reviewing the evidence on the effect that reductions in infant mortality might have on fertility, the paper considers the ways in which family planning, in the broad sense of regulating the number of children born to a couple, may influence infant mortality rates. Some quantitative measures are provided, and the conceptual and methodological difficulties inherent in the approaches used are discussed. The paper concludes with a discussion of the program and policy implications of the findings and the research needs and questions that future activities to reduce infant mortality and improve access to modern contraception will present. (AU)

035 **Almroth, S., Greiner, T.** 1979. *The economic value of breastfeeding.* FAO Food and Nutrition Paper, no.11, FAO, Rome, IT. 89p. (tables, figs., 301 refs.) ISBN 92-5-100797-7

§ This report presents the findings of a research project whose objective was to examine the decline in breastfeeding in Third World countries, with specific reference to

Ghana and Côte d'Ivoire. Despite problems of lack of data, the following conclusions were made. Breastfeeding is still the norm in both countries, yet if it were to increase in Côte d'Ivoire so that every infant is breastfed for 2 years, the savings in national goods cost could amount to USD 16-28 million annually. If it declined to the level of Paris in 1955 (chosen for comparison) the annual national cost would be USD 33-55 million. At the individual level, by breastfeeding rather than artificially feeding an infant for 2 years, the average family in either country would save USD 600-730 in the cost of goods and time, plus any savings that might result from the avoidance of disease or malnutrition caused by artificial feeding. In Ghana, changes in the infant-feeding pattern due to rural-to-urban migration would cause only a 20% increase in formula imports, while import increases would be more than five times as great as this if the present severe restrictions were relaxed so that formula replaced only 1% of the potential national breast-milk production. A change to artificial feeding could possibly result in considerable population growth because of loss of the contraceptive effect (through lactation amenorrhea) of breastfeeding. In-depth studies of the economics of breastfeeding present great difficulties and would probably not justify their high cost. The report suggests that studies be carried out to establish national infant-feeding patterns, to monitor how these change and determine the factors responsible for change, and to design appropriate intervention. (AU modified)

036 **Andoh, E.K.** 1980. *Response variability in African demographic survey data: a case study of a Nigerian village.* African Demography Working Papers, No.1, Population Studies Center, University of Pennsylvania, Philadelphia, US. 47p. (tables, graphs, 3 refs.)

§ Improved demographic statistics, the author argues, will result from better reporting rather than from improvements in analytical techniques. To understand the prevalence of misreporting and its extent, with a view towards reporting improvement, the author discusses the consistency of data collected during four surveys in the village of Ebendo in southern Nigeria in 1973 and 1974. Analysis of the variations in the data is given for the following variables: age of respondents and their children; marital status; migration status; educational level; occupation; number of pregnancies; number of children ever born. (F.M.)

037 **Andoh, J., Conombo, J., Oulai, S., Vaisse, D., Nicolas-Randegger, J., Aholi, P., Essoh Nomel, P.** 1983. *Evolution de la morbidité et de la mortalité dans le service de pédiatrie au C.H.U. de Treicheville: au cours des 3 dernieres années: 1977-1978-1979.* Revue Médicale de Côte d'Ivoire, 17(64), 16-24 (12 réf.) En ISSN 0377-4791

§ Au cours d'une période de 3 ans, 22.439 malades ont été hospitalisés avec un taux de mortalité de 18.75% contre 31% 10 ans plutôt. Cette mortalité est dominée par la pathologie neonatale, la malnutrition proteinocalorique, les diarrhées et deshydratation et les infections des voies respiratoires. •

038 **Ango, S.S., Yakubu, A.M.** 1982. *Accidental childhood poisoning in Zaria.* Nigerian Journal of Paediatrics, 9(4), 105-109 (tables, figs., 12 refs.)

§ Cases (320) of accidental poisoning among children admitted into the ABU Hospital, Zaria, during a 9-year period, were reviewed. Pediatric admissions due to poisoning increased from 6 per 1000 in 1971 to 16 per 1000 in 1980, with a peak of 35 per 1000 in 1977. Kerosene poisoning accounted for 67% of the cases, while the remaining 33% were due mainly to therapeutic agents and domestic chemicals. Children, aged 1-2 years, were most vulnerable. The overall mortality was 3.8%. (AU abbrev.)

039 **Anker, R., Knowles, J.C.** 1980. *An empirical analysis of mortality differentials in Kenya at the macro and micro levels.* Economic Development and Cultural Change, 26(1), 165-185 (tables, 25 refs.) ISSN 0013-0179

§ The purpose of the paper is to obtain a better understanding of the factors affecting mortality differentials in Kenya. After discussing past trends and regional differences, mortality differentials were analyzed at the micro and macro levels using multiple regression analysis with two data sets. The macro-level data set consisted of district-level information from Kenyan government sources (1969 census); the micro-level data set consisted of information from a 1974 household survey with the mortality data derived from individual birth records. Results of both analyses are broadly consistent with each other. Mortality differentials are found to be significantly related to both socioeconomic conditions and macro environmental and health conditions (especially disease prevalence) as well as to demographic factors (sex and cohort). According to the micro analysis, children born to higher-income households, to mothers with good health and high levels of education, to households not using traditional forms of medical care, and to households with modern toilet facilities have higher survival rates than do other children. Results indicate that a high relative payoff might be obtained from a greater concentration of public health resources in the relatively unhealthy parts of the country. (AU modified)

040 Antoine, P., Herry, C. 1982. *Enquête démographique à passages répétés : agglomeration d'Abidjan.* Direction de la Statistique, Abidjan, CI. 419p.

§ L'étude présente les résultats d'une enquête démographique à passages répétés menée en Côte d'Ivoire entre mars 1978 et août 1979. La présente publication concerne uniquement l'agglomération d'Abidjan. Dans une première partie, on brosse un tableau des caractéristiques de la région et on présente la méthode d'enquête utilisée. Puis on expose les résultats concernant la composition de la population, l'état matrimonial, le taux de fécondité, y compris la fécondité différentielle, le taux de mortalité, y compris la mortalité infantojuvénile, enfin les caractéristiques des ménages. On analyse les données en tenant compte de quatre types d'habitat représentatifs de différents groupes socio-économiques. (POPLINE) *

041 Antoine, P., Herry, C. 1984. *Mortalité infantile et juvénile à Abidjan (1978-1979).* Cahiers de l'ORSTOM - Série Sciences Humaines, 20(2), 141-155 (tables, fig., 14 réf.) En, Es

§ Les auteurs analysent les données d'une enquête démographique multiple menée par la Direction de la statistique en 1978-79. Ils discutent des différentes méthodes employées pour le calcul des taux de mortalité infantile et juvénile et contestent la validité du concept de mortalité "urbaine." L'analyse porte sur les relations qui existent entre le taux de mortalité juvénile et les conditions socio-économiques caractéristiques du type de colonisation. Ainsi, la probabilité de décès entre 1 et 4 ans est quinze fois plus élevée dans les quartiers les plus pauvres (habitat sommaire) que dans les quartiers résidentiels. (F.M. traduit)

042 Anyanwu, R.C., Enwonwu, C.O. 1985. *The impact of urbanization and socioeconomic status on infant feeding practices in Lagos, Nigeria.* Food and Nutrition Bulletin, 7(1), 33-37 (tables, 14 refs.) ISBN 92-808-0540-1 ISSN 0379-5721

§ This report covers the first phase of an ongoing national study designed to evaluate current maternal perceptions of infant feeding among different ethnic, religious, cultural and socioeconomic groups in Nigeria, with the primary objective of assessing the extent of decline in breastfeeding as well as the major factors responsible for the negative change. Using a questionnaire, 558 women from the low-income level of Lagos society were interviewed. Evidence indicates that breastfeeding has not lost its prestige among the economically underprivileged, labouring classes in metropolitan Lagos, but is accorded lower priority because of the overwhelming competing factors of urban existence resulting from poverty. (AU modified)

043 Arevalo, J. 1985. *Statistical problems of relevance to demographic data collection in developing countries.* In International Population Conference, Florence, 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. 83-92 (4 refs.) Fr ISBN 2-87108-008-9 ISSN 0254-5217

§ The discussion of problems related to demographic data gathering currently deals with two main subjects: on one hand, the selection of the topics to be investigated, their conceptualization, and the elaboration of appropriate definitions and, on the other, the procedures used in data gathering. For the first of these subjects, little attention seems to have been paid to the problems derived from the absence of national and local frames of reference that would enable each country or culture to select the topics to be investigated according to their own needs and the negative role that international recommendations may have played in providing a list of topics, with their corresponding definitions, as a universal standard that could be substituted for national or local standards and the pressure to obtain data convenient for international comparability, which leads to use of that standard without discussing its validity for the local scope. For the time being, it is suggested that insistence upon international comparability of demographic data be lessened until specific studies prove its feasibility and provide the necessary comparative bases required for each particular case. At the same time, it is suggested that the explicit development of national and local frames of reference, that are adapted to local realities and appropriately reflect their needs, be stimulated. (AU modified).

044 Armagnac, C., Retel-Laurentin, A. 1981. *Relations between fertility, birth intervals, foetal mortality and maternal health in Upper Volta.* Population Studies, 35(2), 217-234 (tables, 6 refs.) ISSN 0032 4728

§ The results of an enquiry conducted by a multidisciplinary research team in nine villages in Burkina Faso into the relationships between fertility, child mortality, and maternal health are discussed. Three surveys carried out in 1971, 1976, and 1977 in association with a medical care program provided data on an initial group of 582 women. The authors conclude that the three main factors influencing birth intervals are: postpartum abstinence; infant mortality which decreases the interval between live births; the genital health of the population which has an important influence on open, as opposed to closed, birth intervals. (F.M.)

045 Ashworth, A. 1982. *International differences in infant mortality and the impact of malnutrition: a review.* Human Nutrition: Clinical Nutrition, 36c(1), 7-23 (tables, 61 refs.)

§ In developing countries mortality remains high, particularly in Africa, the Indian subcontinent, and Southeast Asia. Observed rates of decline during the last 20 years have been no greater than in the industrialized countries and may have been lower. Although a greater proportion of infant deaths occur postneonatally compared with developed countries, the majority nevertheless occur within the first 3 months of life, due mainly to low birth weight and diarrheal disease. The implications in terms of health and nutrition policies are discussed. Statistical data are included. (SALUS)

046 Ashworth, A. 1982. *Internationl differences in child mortality and the impact of malnutrition.* Human Nutrition: Clinical Nutrition, 36c(4), 279-288 (tables, 34 refs.)

§ In the industrialized countries, mortality in the 1-4 age group continues to decline even though levels are already low, in most cases below 1 per 1000. Rates of decline in child and infant mortalities are similar. The main causes of child death are accidents and congenital anomalies which are difficult to control. Indications are that mortality in the 1-4 age group in most developing countries is still very high. Limited data suggest that mortality in the 1-4 age group is declining more rapidly than infant mortality and that rates of decline are faster than in industrialized countries. Diarrheal disease and measles are the main causes of mortality in the 1-4 age group with malnutrition being a contributory cause in 60% of cases. Most child deaths occur in the second year of life. Health planning and evaluation, particularly in Africa and Asia, are severely hampered by totally inadequate death registration data. (AU)

047 Assinadi, K., Zongo, P., Granga, D., Kessie, K., Degboe L.A., Hodonon, K., Vovor, M. 1985. *Morbidité et mortalité à l'unité des prématures au C.H.U. de Lomé : bilan d'un an d'activité de soins.* Revue Medicale de Côte d'Ivoire, 19(7), 31-41 (14 réf.) En ISSN 0377-4791

§ Les naissances de faible poids sont fréquentes (10.60 % des accouchements), la mortalité élevée (27.77 %) est liée à la diversité des affections (infections, gastro-enterites, pathologie respiratoire) et aux limites des moyennes de surveillance. Les facteurs étiologiques sont variés : grossesses gémellaires, conditions socio-économiques des familles et maladies maternelles. (PASCAL) *

048 Audibert, M. 1982. *Statistiques sanitaires et indicateur de santé dans les pays en voie de développement.* Revue d'Epidémiologie et de Santé Publique, 30(4), 437-450 (tables, fig., 21 réf.) En

§ Après une brève revue de la littérature sur les indicateurs de santé, l'auteur montre les objections que soulèvent les indicateurs de santé traditionnellement utilisés dans les pays en voie de développement d'une part, les difficultés d'application des perspectives récentes de recherche dans l'élaboration d'indices d'état de santé dans les pays développés d'autre part. Aussi, l'auteur propose d'exploiter les informations contenues dans les statistiques d'activité des formations sanitaires. Elle montre que le taux de consultation et le taux de fréquentation dépendent à la fois de l'état de santé, des conditions de l'offre (distance, équipement) et des conditions de la demande (attitude des malades). Utilisant alors la methode de la régression multiple, pour isoler le rôle de ces divers facteurs, elle conclut que le residu peut être considéré comme indicateur d'état de santé. L'application de cette méthode aux données disponibles pour les quarante départements du Cameroun permet de montrer que l'indicateur obtenu est, comme on pouvait l'attendre, corrélé avec le taux de mortalité infantile et avec les conditions d'hygiène. (AU)

049 Ayangade, S.O. 1978. *Birth interval study in a culturally stable urban population.* International Journal of Gynaecology and Obstetrics, 15(6), 497-500 (figs., 9 refs.) ISSN 0020-7292

§ Within 2 days of delivery, 500 women were interviewed to examine indigenous birth spacing among the urban and rural population of Ife township. The crude birth interval was 30-40 months due mainly to cultural attitudes toward lactation and sexual abstinence. The women studied possessed considerable knowledge of Western contraceptive methods, but they rejected them. The possible cause of this rejection is examined and solutions to the problem are suggested. (AU)

050 Ayeni, O., Oduntan, S.O. 1978. *Effects of sex, birthweight, birth order and maternal age on infant mortality in a Nigerian community.* Annals of Human Biology, 5(4), 353-358 (tables, 22 refs.) Fr, De

§ Infant mortality data for 1971-75 in a rural Nigerian town were reviewed to determine the influence of variables, such as sex of baby, birth weight, birth order, and maternal age, on infant survival. The study revealed that infant mortality was not significantly associated with sex, was 5.9 times higher among low-birth-weight babies, increased consistently with order of birth, and was highest for mothers younger than 20 and older than 35 years. Study findings are tabulated and discussed. (SALUS)

051 Ayeni, O., Oduntan, S.O. 1980. *Infant mortality rates and trends in Nigerian rural populations.* Journal of Tropical Pediatrics, 26(1), 7-10 (tables, 15 refs.)

§ A study of a 10-year trend in infant mortality in a rural population in Nigeria revealed that the death rate had dropped approximately 50% (from 140 to 67 per 1000 live births) from 1965 to 1975. This decline is thought to be due, in large part, to the efforts of the rural health centre, which has carried out vigorous programs in maternal and child health, health education, and environmental sanitation. Statistical data are included. (SALUS)

052 Ayeni, O. 1981. *Causes of mortality in an African city.* African Journal of Medicine and Medical Sciences, 9(3), 139-149 (tables, 16 refs.) Fr ISSN 0309-3913

§ Registered deaths from the vital statistics registration system of Lagos City, a system that was judged to be 60% complete, were analyzed for 1977. Nearly 40% of total registered deaths were from infections, parasitic diseases, and motor vehicle accidents. Maternal mortality appears to be very high. The age pattern of mortality is different from that in the developed countries, a high proportion of the deaths in Lagos City being those of children under 5 years. Infant mortality is dominated by perinatal causes which constituted a huge 38.4% of deaths of infants under 1 year, the other important causes being dysentery and diarrhea, pneumonia, and tetanus. Well organized health services stressing antenatal care, preventive and health education services are needed to effect a reduction in mortality and general improvement in the health of the people. (AU abbrev.)

053 Ayeni, O. 1985. *Geographic and socioeconomic differentials characteristic of infant and child mortality in Africa.* In International Population Conference, Florence 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 261-273 (tables, 17 refs.) Fr ISSN 0254-5217

§ The evidence on regional and socioeconomic differentials in infant and child mortality in Africa is assessed. In contrast to earlier studies, current information from the World Fertility Survey (WFS) indicates that mortality levels in western Africa may not be higher than for other African subregions. More information is needed on the existence of regional differentials in infant and child mortality. WFS data does show that, in eight African countries, it is now beyond doubt that maternal education has a favourable influence on infant mortality. Data also show higher mortality rates for rural than urban infant mortality. (AU modified)

054 Azefor, M.N.A. 1981. *Counteracting forces in the continued decline of mortality in Africa.* In Proceedings of the International Population Conference, Manila, PH, 1981, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 5-20 (tables, 18 refs.) Fr

§ In the context of the debate over the relevance of demographic transition theory to Africa, this paper examines whether significant declines in mortality have occurred in Africa and attempts to assess the magnitude of the decline. Second, the paper reviews counteracting factors in the process of continuous mortality decline in sub-Saharan Africa. Third, the paper examines future prospects and implications of the current mortality situation and identifies priority areas of action in the struggle to improve the quality of mortality data in Africa. (AU modified)

055 **Azubuike, J.C.** 1982. *Incidence of low birthweight among eastern Nigerians.* Journal of Tropical Pediatrics, 28(6), 270-272 (11 ref.) ISSN 0300-9920

§ To determine the incidence of low birth weight in eastern Nigeria, a prospective study was undertaken from 1974 to 1978 at the University of Nigeria Teaching Hospital, Enugu. Similar studies were conducted over a 2-year period at another urban but nonteaching maternity hospital and at a rural hospital. The incidence of low birth weight was found to be 4.45% and 4.85% for male and female infants, respectively, at the urban hospitals; corresponding rates for the rural hospital were 7.76% and 9.34%. All of these figures are much lower than those reported for a comparable population in western Nigeria. Statistical data are included. (SALUS)

056 **Baasher, T., Bannerman, R.H.O., Rushwar, H., Sharaf, I.** 1982. *Traditional practices affecting the health of women and children.* Proceedings of meeting at Khartoum, SD, 10-15 February 1979. WHO (Eastern Mediterranean Regional Office) Technical Publication, 2(2), Traditional practices affecting the Health of Women and Children, Khartoum, SD, 10-15 Feb 1979. World Health Organization , Alexandria, EG. 362 p. (tables, refs.)

§ This volume contains 34 background papers to the WHO seminar. The main subjects addressed are nutritional taboos and traditional practices in pregnancy and lactation including breastfeeding practices; child marriage and early teenage childbirth; female circumcision, including anatomical, histological, physical, psychosocial, and epidemiological aspects and country studies in Nigeria, Ethiopia, Kenya, Sudan, Somalia, and Burkina Faso. (F.M.) •

057 **Bamisaiye, A.** 1979. *Using primary school children to assess nutritional status in the community.* Journal of Tropical Pediatrics and Environmental Child Health, 24(5), 223-225 (tables, 7 refs.) ISSN 0300-9920

§ A mid-arm circumference strip that provides a quick and reliable assessment of nutritional status is described. This technique is simple to use and does not depend on knowledge of the child's exact age; consequently, village women and schoolchildren can take accurate measurements. The purpose of this study was to assess the reliability of the results when 150 primary schoolchildren from Lagos, Nigeria, aged 10-16 years, used the circumference strip on younger siblings. It also evaluates the extent to which these children could advise their mothers on nutritional practices. Although results showed that the children achieved acceptable standards of reliability using the arm circumference strip, the "explain and advise" section of the program was much less effective, mainly because the culturally derived problems of children presenting information to adults were underestimated. Statistical data are included. (SALUS)

058 **Bamisaiye, A., Oyediran, M.A.** 1983. *Breast-feeding among female employees at a major health institution in Lagos, Nigeria.* Social Science and Medicine, 17(23), 1867-1871 (tables, 16 refs.) ISSN 0277-9536

§ The importance of breastfeeding to the health of infant and mother is discussed. However, the working conditions of employed women in developing countries prevent exclusive breastfeeding once the mother has returned to work and present obstacles to partial breastfeeding. The breastfeeding practices of 126 women employed at a major health institution in Lagos, Nigeria, are examined. Duration of breastfeeding was inversely related to salary level. Women earning the lowest salaries had a mean duration of breastfeeding their last child of 8 months, whereas women in senior professional positions had a mean breastfeeding duration of 3.3 months. Conflicts with work responsibilities were the most commonly cited reason for terminating breastfeeding earlier than the mother desired. If a crèche was available at place of work, half the women surveyed said they would breastfeed longer. Anticipated durations, if a crèche was available, would lengthen breastfeeding to 12 months for lowest paid women and to nearly 9 months for women at the higher salary levels. It is concluded that the most satisfactory means of promoting breastfeeding among employed women is the provision of paid leave after delivery for at least 3 months and the provision of a crèche at place of work. The costs should be borne by the employer, with assistance from government in the form of grants and tax relief. In this way, the importance of the contribution of the employed woman to national development is recognized. Moreover, because employed women are role models for other women in the society, promoting breastfeeding among this group has an important demonstration effect. (AU modified)

059 **Bankole, N.** 1982. *Conceptual problems in nutrition education in western Nigeria.* Food Policy, 7(4), 323-331 (tables, ill., 16 refs.) ISSN 0306-9192

§ A pilot survey of the factors affecting infant feeding practices in Ipetumodu in western Nigeria highlighted intercultural perceptual problems. Thirty-eight mothers with at least one child under 5 years were interviewed in depth and answered a structured questionnaire. Results showed widespread use of imported, high-cost carbohydrate foods and resistance to the early introduction of local health-protective items. Health education staff members are not highly regarded; this is not conducive to the acceptance of their educational efforts. Recommendations include control of advertising; reviewing staff orientation and training; and an intensive campaign to reestablish breastfeeding as the norm. (AU modified)

060 **Bantje, H.** 1982. *Birthweight distribution and ante-natal care in Ikwiriri Village, Tanzania.* Tropical and Geographical Medicine, 34(2), 213-223 (tables, figs., 20 refs.)

§ Birth-weight records for 1972-80 from a Tanzanian village are analyzed by sex, parity, occupation of head of household, and level of antenatal care. The last is found to have a significant impact on length of gestation and birth-weight distribution. Birth weight is also shown to be associated with maternal weight gain in the third trimester of pregnancy, which reflects the impact of nutrition and energy expenditure. The findings on fetal growth and length of gestation are compared with those from a similar study in Dar es Salaam. The length of gestation was found to be shorter, but birth weight for gestational age was consistently higher than in the city. These differences are attributed to different life-styles and levels of food intake. Recommendations are made for systematic recording and analysis of birth weights for nutrition surveillance. (AU)

061 **Barnabus, G.** 1982. *Nutrition and child care amongst Ethiopian refugees in Eastern Sudan.* Journal of Tropical Pediatrics, 28(4), 218-220 (tables, 3 refs.) ISSN 0300-9920

§ Of 151 Ethiopian refugee children examined at the Um Gulja camp in eastern Sudan during a nutritional survey in July and August 1981, 94 (61%) were stunted but only 8 (6%) were wasted, suggesting that many had died when they reached such a level of malnutrition. The majority of these children were less than 2 years old, born in the refugee camp, and suffering from diarrhea, which was especially prevalent during the rainy season. Child-care practices among refugee families consisted of prolonged breastfeeding, late introduction of solid foods, and abrupt weaning when mothers became pregnant again. It is suggested that refugee health services should concentrate on nutrition and infectious diseases. Statistical data are included. (SALUS)

062 **Barnum, H., Barlow, R.** 1984. *Modeling resource allocation for child survival.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 367-387 (tables, figs., 10 refs.)

§ The objective of the research reported here is to provide policymakers with an analytical framework to facilitate efficient allocation of resources to programs intended to reduce the rate of child mortality. As a heuristic device, the framework is used to provide a direct assessment of health interventions designed to raise the probability of child survival in a hypothetical community. The techniques developed are intended to have general application to an analysis of the cost-effectiveness of alternative health programs. (AU abbrev.)

063 **Behm, H.** 1983. *Final report on the research project on infant and childhood*

mortality in the Third World. In Inter-Center Cooperative Research Programme project no. 1. Committee for International Research in Demography, Paris, FR. 9-33 (tables, refs.)

§ This report gives a summary and commentary of the papers given at the concluding meeting of the CICRED cooperative research project on infant and child mortality in the Third World, held in Manila, 1981. Discussion centres on data sources on mortality; methods of mortality estimation; mortality levels and trends; mortality differentials; causes of death; the relationship between infant mortality and fertility; theoretical frameworks for the analysis of mortality and analysis of the determinants of mortality. In the concluding section, the cooperative program is evaluated. (F.M.)

064 **Bénéfice, E., Chevassus-Agnes, S., Maire, B., Ndiaye, A.M.** 1981. *Enquêtes sur l'état nutritionnel en zone tropicale sèche. Sahel 1976-1979 : méthodologie et résultats.* In Etat nutritionnel de la population rurale du Sahel : rapport d'un groupe de travail, Paris (France) 28-29 avril 1980. Organisé par l'Union internationale des sciences de la nutrition, l'Union internationale des sciences et techniques alimentaires, l'Université des Nations Unies et le Centre dpour le développement international. CRDI, Ottawa, CA. 33-50 (tables, fig., 65 réf.) IDRC-160f

§ La première partie de l'étude analyse les problèmes méthodologiques soulevés lors d'enquêtes sur l'état nutritionnel et présente la méthode d'enquête transversale utilisée par l'Organisme de recherches sur l'alimentation et la nutrition africaines. Diverses mesures permettent d'évaluer la malnutrition du double point de vue protéinique et calorique (signes cliniques, anthropométrie, biochimie); la deuxième partie de l'étude examine les anémies à caractère nutritionnel; dans la dernière partie, sont analysés les résultats d'enquêtes menées au Burkina Faso, au Mali, au Bénin et au Sénégal, en tenant compte des facteurs écologiques et socio-économiques. (F.M. traduit)

065 **Bénéfice, E., Chevassus-Agnes, S., Epelboin, A., Carles, C., Ndiaye, A.M.** 1983. *Enquête nutritionnelle en Haute-Volta. 1. Importance et formes de la malnutrition.* Bulletin de la Société de Pathologie Exotique et de ses Filiales, 76(1), 87-94 (carte, tables, 20 réf.) En

§ L'Organisme de recherches sur l'alimentation et la nutrition africaines a réalisé une enquête nutritionnelle en Burkina Faso (Haute-Volta) en 1978 sur un échantillon de la population tiré au sort. L'échantillon était composé de 516 enfants et 491 adultes des deux sexes. Le taux de mortalité estimé des enfants de 0 à 5 ans de l'échantillon était très élevé : 30 %. Plus de 6 % des enfants examinés de 0 à 9 ans étaient amaigris et de petite taille. Les enfants plus âgés et les adultes avaient des poids insuffisants mais leur circonférence musculaire étaient acceptables par rapport aux normes internationales. La prévalence des anémies était de 30 % et des cas de xérophtalmie ont été observés. (AU) *

066 **Bénéfice, E., Chevassus-Agnes, S., Epelboin, A., Ndiaye, A.M.** 1983. *Enquête nutritionnelle en Haute-Volta. 2. Facteurs de risque associés à la malnutrition.* Bulletin de la Société de Pathologie Exotique et de ses Filiales, 70(2), 198-203 (tables, 8 réf.) En ISSN 0037-9085

§ Les facteurs associés au risque de malnutrition ont été étudiés par une technique d'analyse multivariée au moyen d'un ordinateur (analyse de la variance à plusieurs facteurs). Les coefficients de corrélation multiples retrouvés pour 7 prédicteurs étaient de 0,11 pour les enfants et de 0,34 pour les femmes. Les résultats montrent que la situation nutritionnelle s'aggrave avec la densité de la population qui entraîne une surexploitation des terres du Nord-Ouest. Deux styles de vie distincts, l'un tourné vers l'agriculture, l'autre vers l'élevage, déterminent des situations nutritionnelles nettement différentes chez les femmes et les enfants. Les facteurs familiaux jouent également un role dans l'état de nutrition de l'enfant. (AU)

067 **Bénéfice, E., Chevassus-Agnes, S., Barral, H.** 1984. *Nutritional situation and seasonal variations for pastoralist populations of the Sahel (Senegalese Ferlo).* Ecology of Food and Nutrition, 14, 229-247 (tables, figs., 51 refs.) ISSN 0367-0244

§ The nutritional status and food consumption of a population of herders in the Ferlo (Senegal) was studied during a complete seasonal cycle. The Ferlo region is in the Sahelian climatic belt where a long dry season (9-10 months) alternates with a brief

humid season (2-3 months). In the existing, traditional, livestock production system, these climatic variations have an impact on the living conditions of these people and on nutritional status of the herders. Food intakes are insufficient during the rains and one finds a deep nutritional depression during this period, whereas during the dry season food intake is good and nutritional status definitely improves. In an average situation, there is a balance between losses during the wet season and gains at the beginning of the dry season. This balance is nevertheless precarious. To ensure food and nutritional security for the herders, activities must concentrate on seeking solutions that will not threaten their social organization or their lifestyle. (AU)

068 Bennett, F.J. 1984. *Infant and child wastage in Kenya.* Workshop on issues in health and nutrition development in Kenya, Kisumu, KE, 23-26 July 1984. 16p. (tables, figs., 3 refs.)

§ The author gives an overview of aspects of early childhood morbidity and mortality in Kenya. The following topics are discussed: (1) size and distribution of the problem (regional, rural-urban, socioeconomic group differentials); (2) immediate causes of early childhood mortality, including acute respiratory disease, malaria, diarrhea, measles; (3) links between (1) and (2) focusing particularly on the incidence of malnutrition; (4) policy implications of the analysis with particular reference to an appropriate primary health care program. (F.M.)

069 Bennett, N.G., Horiuchi, S. 1984. *Mortality estimation from registered deaths in less developed countries.* Demography, 21(2), 217-233 (tables, figs., 15 refs.)

§ Age-specific population growth rates were introduced to demographic analysis in earlier work by Bennett and Horiuchi and by Preston and Coale. In this paper, we derive a method that uses these growth rates to transform what may be a set of incompletely recorded deaths by age into a life table that accurately reflects the true mortality experience of the population under study. The method does not rely on the assumption of stability and, for example, in contrast to intercensal cohort survival techniques, is simple to implement for nontraditional intercensal interval lengths. Thus we can obtain mortality estimates for less developed countries with defective data, despite departures from stability. Further, we assess the sensitivity of the method to violations in various assumptions underlying the procedure: error in estimated growth rates, existence of non-zero net intercensal migration, age dependence in the completeness of death registration, and misreporting of age at death and age in the population. We demonstrate the use of the method by applying it to data on Argentine females for the period 1960-70. (AU)

070 Benoit, D. 1976. *Une étude démographique è partir des registres paroissiaux en pays Gourounsi (Haute Volta).* Cahiers de l'ORSTOM - Série Sciences Humaines, 13(3), 297-310 (cartes, tables, 13 réf.)

§ L'étude porte sur une enquête de confrontation des données tirées des registres paroissiaux de Reo en pays Gourounsi, Burkina Faso, et d'une enquête démographique. Les résultats permettent de se faire une idée sur divers aspects de la fécondité : fécondité de la femme selon son âge réel, intervalles entre naissances selon la parité, liaison entre mortalité infantile et fécondité. Du point de vue méthodologique, l'enquête rétrospective conduite indépendamment du dépouillement, ouvre la possibilité de mesurer le degré "d'oubli" d'événements comme les naissances, les décès mais aussi les biais sur les âges. En conclusion on peut dire qu'une exploitation de registres paroissiaux à large échelle apporterait des données fines et la possibilité de comparaisons fructueuses. (AU)

071 Benoit, D., Lacombe, B., Levi, P., Livenais, P., Sodter, F. 1980. *Kongoussi - Tikare enquête de sources complémentaires en milieu rural Mossi (Haute Volta - 1978). Méthodologie et premiers résultats.* Document de travail, no.10, Section de démographie, Office de la recherche scientifique et technique outre-mer (ORSTOM), Paris, FR. 59p. (tables, cartes)

§ Les résultats présentés ici proviennent de données obtenues lors d'une enquête démographique réalisée en zone rurale Mossi (Burkina Faso) en 1978. L'objectif de cette enquête était de collecter un ensemble de renseignements précis permettant la mesure de la fécondité et de la mortalité infantile et juvénile sur une longue période. La méthode utilisée dite Enquête de sources complémentaires (ESC) consiste en un couplage non indépendant de deux sources de

données : une transcription des registres paroissiaux, et une enquête sur le terrain. Cette méthodologie sera brièvement exposée dans une première partie. Dans une seconde partie seront présentés les premiers résultats. Cette présentation s'effectuera sous forme de tableaux commentés classés en deux grandes séries : la première série comporte des tableaux qui se réfèrent à la méthodologie et à la critique des données; la seconde série regroupe des indications qui se rapportent plus spécialement à l'objectif de l'enquête - la mesure de la fécondité et de la mortalité infantile et juvénile. (AU)

072 **Benoit, D., Lacombe, B., Levi, P., Livenais, P., Sodter, F.** 1981. *Main results of a survey based on the parish registers of Kongoussi-Tikare (Mossi Country, Upper Volta, 1978).* In African Historical Demography, 2. Proceedings of a seminar held in the Centre of African Studies, University of Edinburgh, Edinburgh, GB, 24-25 April 1981. Centre of African Studies, University of Edinburgh, Edinburgh, GB. 33-44 (tables, 8 refs.)

§ The results of a survey of fertility and infant mortality in Burkina Faso are presented. The data are taken from parish registers and a retrospective field survey and concern 2003 mothers and 9794 children. A general decline in infant and child mortality over time is noted, and its relationship to the location of health clinics is discussed. (POPLINE)

073 **Benoit, D., Lacombe, B., Levi, P., Livenais, P., Sodter, F.** 1982. *Mariatang : enquête de sources complémentaires en pays Dagara (Haute-Volta).* Document de travail, no.16, Section de démographie, Office de la recherche scientifique et technique outre-mer (ORSTOM), Paris, FR. 75p. (tables, carte, 18 réf.) ISBN 2-7099-0655-4

§ A partir d'une enquête de sources complémentaires, couplage non dépendant d'un dépouillement de registres paroissiaux et d'une enquête rétrospective, réalisée en 1976 à Mariatang, paroisse située en pays Dagara (Burkina Faso), diverses tendances démographiques ont été calculées. Ainsi la mortalité infanto-juvénile, après une baisse, a atteint actuellement un palier; au cours de cette même période la fécondité est restée à un niveau élevée. D'un point de vue méthodologique, si les registres paroissiaux constituent la trame avec des données précises, l'apport de l'enquête rétrospective est indispensable; celle-ci recueille 30 % des naissances et 56 % des décès. (AU)

074 **Bernat, F.** 1977. *Expérience d'un centre de consultation pour nourrissons et jeunes enfants en République du Burundi.* Médecine Tropicale, 37(5), 564-569 (tables)

§ L'auteur décrit les activités d'un hôpital rural à Muhinga, dont le programme de vaccination et d'éducation à la nutrition a connu un succès. Mais l'auteur suggère de relocaliser ces services dans les dispensaires de brousse afin de les rendre plus efficaces. Ainsi rapprochés des populations dispersées, les services seront plus accessibles et connaitront plus de succès encore. (F.M. traduit)

075 **Bertrand-Chartier, M.** 1983. *Cultures africaines, santé et soins infirmiers - l'alimentation du jeune enfant africain.* Les Cahiers de L'AMIEC, 8, 135-200

§ Etude sur la non adaptation à l'urbanisation d'une population rurale face aux problèmes de santé liés à la nutrition au Congo-Brazzaville (Bassoundi) en 1970. Mise en évidence du taux élevé de la morbidité et de la mortalité chez le jeune enfant. Analyse en milieu rural et en milieu urbain des besoins pour une education pour la santé tenant compte de la culture et des traditions. (FRANCIS) *

076 **Bhatia, J.C., Neuman, A.K.** 1982. *Social correlates of foetal mortality in rural Ghana.* Journal of Family Welfare, 28(3), 46-57 (tables, 16 refs.)

§ Data from a retrospective study of pregnancy histories collected in 1972 from a sample of 857 women aged 15-44 years in rural Ghana are analyzed to evaluate the social correlates of fetal mortality. Social, economic, and demographic factors affecting fetal mortality have been studied by using the one-way analysis of variance and analysis of covariance. The results of this analysis have shown that age at first marriage, ethnicity, and marital stability are significant predictors of fetal mortality in the area studied, although no statistically significant relationship has been found between fetal mortality and education of the wife, occupation of the wife, type of conjugal relationship, type of marriage (polygamous or monogamous), type of family (nuclear or extended), and family planning methods used. (AU modified)

077 Bhatia, J.C. 1982. *Determinants of desired family size in rural Ghana (West Africa): a multivariate analysis.* Demography India, 11(2), 221-243 (tables, 22 refs.)

§ In an analysis of data on desired family size, collected from 778 husbands and 857 wives as part of the Danfa project, the following conclusions are reached: the net effect of education, occupation, ethnicity, and number of living children on the desired family size has been found to be statistically significant for both women and men, while religion and type of marriage are significantly related to number of children desired for men only. The relationship between infant and child deaths and desired family size is examined for women only and these variables are inversely and significantly related. Multivariate statistical techniques were used to measure the effect of the variables. (AU modified)

078 Biellik, R.J., Henderson, P.L. 1981. *Mortality, nutritional status and diet during the famine in Karamoja, Uganda, 1980.* Lancet, ii(8259), 1330-1333 (tables, map, 22 refs.)

§ Drought and the cattle raiding associated with a breakdown of civil order caused a famine in Karamoja, Uganda, during 1980. In November-December 1980, a study of mortality, nutritional status, and dietary conditions was undertaken in south Karamoja. Of 309 randomly selected children, under 110 cm in height, 4.8% had acute malnutrition (< 80% reference median weight-for-height). Interviews in 150 randomly selected households revealed that the crude mortality rate and the infant mortality rate during the previous year were increased almost 5-fold and 10-fold, respectively, above 1969 census data. Food supplied by the World Food Program was eaten the previous day by only half the families which were not self-sufficient in food. Relief officials' hope that the 1981 cereal harvest might end the dependence on international aid was tempered by reports of further drought. Agricultural yield and food supplies should thus be monitored to assess the need for more international aid. (AU)

079 Biellik, R.J., Henderson, P.J. 1981. *Mortality, nutritional status and dietary conditions in a food deficit region: North Teso district, Uganda, December 1980.* Ecology of Food and Nutrition, 11(3), 163-170 (tables, map, 23 refs.) ISSN 0367-0244

§ Areas adjacent to famine-stricken Karamoja District, in Uganda, including Teso District, were identified by the United Nations as suffering the effects of drought and civil disruption. In December 1980, a study of mortality, nutritional status, and dietary conditions was undertaken in north Teso. Using anthropometric data as a basis for the nutritional assessment of 415 randomly selected children < 110 cm in height, a prevalence of 0.2% moderate acute malnutrition was found. Interviews in 200 randomly selected households revealed that the crude mortality rate and the infant mortality rate exceeded 1969 census findings by 140% and 72%, respectively. Relief food commodities distributed by CARE were found to be eaten the previous day in only 5% of households. Field observations confirmed respondents' complaints that food aid distribution was seriously deficient. Although the effects of food deficits are not currently severe, it is vital to monitor the continuing drought and civil chaos in the event the situation in Teso District deteriorates seriously during 1981. (AU)

080 Billewicz, W.Z., McGregor, I.A. 1981. *The demography of two West African (Gambian) Villages, 1951-75.* Journal of Biosocial Science, 13, 219-240 (tables, 18 refs.) ISSN 0021-9320

§ From a longitudinal study over 25 years (1951-75) of two adjacent Gambian villages, the data allow estimates of population growth, birthrates, age-specific mortality, female fertility, and infertility rates in the two sexes. There are many similarities, but also differences, between the two villages. For Keneba and Manduar respectively, stillbirth rates were 63.9 and 88.6, first week mortality 49.2 and 44.9, and neonatal mortality 85.2 and 49.6 per 1000 live births. In Keneba, where survival to age 5 years averaged 50%, young child mortality was significantly higher than in Manduar but mortality at older ages was not. Season profoundly affected child mortality: about 45% of all deaths under 15 years occurred in the late wet season, August-October. Crude birthrates averaged 58.4 per 1000 for Keneba and 49.0 for Manduar, rates per 1000 women aged 15-44 years averaged 248.5 and 215.3 respectively. In both villages mean birth interval increased progressively with the survival of the preceding child. In Keneba, the interval increased from about 16 months when the first of the two children was stillborn to nearly 37 months when the first child survived to 2 years. In Manduar the corresponding values were 19 and 36 months. (AU abbrev.)

081 **Birdsall, N.** 1976. *Health planning and population policy in Africa.* African Studies Review, 19(2), 19-33 (tables, 32 refs.)

§ The author observes that despite common interests, health planners and population planners have apparently different objectives: respectively, to improve health and reduce mortality, and reduce rapid rates of population growth. On the premise that those in the population field should give priority to decreasing mortality in Africa, and against a background of an analysis of present health expenditures, the author outlines a strategy for future health spending and for structural change necessary to accomplish this end. She concludes that an adequate health delivery system (rural and preventive in focus), with ancillary services in nutrition and sanitation, is critical in lowering the death rate, particularly the high infant mortality rate. This is seen as a prerequisite to decreased fertility. (AU modified)

082 **Bitemo, M., Kimpouni, D., Mvila, G.** *Bilan de la Collecte de L'EMIJ de Brazzaville.* Quatrième réunion technique sur l'Enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1985. 62 p. (tables, réf.)

§ L'objectif de la présente enquête sur la mortalité infantile et juvénile de Brazzaville est de mesurer aussi correctement que possible le niveau de la mortalité maternelle et infantile et d'en étudier les aspects différentiels selon le niveau d'instruction et de revenu des parents de l'enfant, leur activité économique, l'état sanitaire, l'habitat, la nutrition de l'enfant, inter alia, ainsi que ses relations avec d'autres phénomènes démographiques. Dans ce document les auteurs discutent la méthodologie et l'organisation de l'enquête, l'exécution de la collecte et le bilan numérique de la collecte. (AU modifié)

083 **Black, R.E.** 1984. *Diarrheal diseases and child morbidity & mortality.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 141-161 (tables, figs., 56 refs.)

§ This paper reviews the major etiologic agents of infant and childhood diarrhea from an epidemiologic perspective. It also discusses the methods for measuring the frequency of diarrheal diseases and for assessing the contribution of these diseases to childhood mortality. Estimates of the importance of specific types or etiologies of diarrhea are given, and the impact of possible interventions, such as vaccines or therapy, is considered. (AU)

084 **Blacker, J.G.C.** 1981. *The application of indirect techniques of estimating fertility and mortality to African data.* In Population dynamics: fertility and mortality in Africa. Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 110-133 (tables, figs., 17 refs.) ST/ECA/SER.A/1

§ The author reviews and discusses the application of indirect techniques for estimating fertility and mortality in Africa, as these techniques have been developed subsequent to the classic text by Brass et al. (1968), *The Demography of Tropical Africa.* With reference to mortality, works by Sullivan, Trussell, Page and Coale, and by Feeney are analyzed. (F.M.)

085 **Blacker, J.G.C.** 1984. *Experiences in the use of special mortality questions in multi-purpose surveys: the single-round approach.* In Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, TH, 20-23 October 1981. Population Studies, no.84. UN Department of International Economic and Social Affairs, New York, US. 79-89 (tables, figs., 41 refs.) ST/ESA/SER.A/84

§ The author describes, illustrates, and evaluates the use of retrospective information about mortality collected by single-round sample surveys, covering the evaluation and adjustment of data on household deaths in a recent, defined reference period, the use of information from mothers on the survival of their children, the use of information on survival of parents, and the use of information on survival of first spouses. Examples are presented and the conclusion reached is that, although the use of such approaches is not invariably satisfactory, it represents a cost-efficient way of filling a number of basic needs for mortality information where alternative sources are lacking. (Hill 1984)

086 Blacker, J.G.C. 1985. *Sample size and sampling errors in demographic surveys: a reassessment in the light of the World Fertility Survey results.* In International Population Conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. 69-81 (tables, 17 refs.) Fr ISBN 2-87108-008-9 ISSN 0254-5217

§ The paper examines the effect of sampling errors calculated from World Fertility Survey data on the estimation of levels and trends in mortality and fertility. First, the sampling errors associated with the indirect estimates of mortality (child survival, orphanhood, and widowhood) obtained from the mortality module of the household schedule for five countries (Jordan, Syria, Sudan, Yemen, and Morrocco) were averaged, then doubled to give the lower and upper limits of the 95% confidence interval. These lower and upper estimates were converted into conventional measures of mortality. Most of the estimates of child mortality, derived from the proportions of children dead by age group of mothers, were subject to confidence intervals of ± 10 per mille points, but the estimate of infant mortality, derived from the data for mothers aged 15 to 19 had much larger sampling errors attached to it, of the order of ± 28 points. Second, estimates were made of the sampling errors associated with fertility rates by birth order, and hence the parity progression ratios. A model of age-specific fertility rates for Kenya was constructed using the age-specific fertility rates and their sampling errors calculated by Little for a 5-year reference period. (AU abbrev.)

087 Blacker, J.G.C., Hill, A.G., Timaeus, I. 1985. *Age patterns of mortality in Africa: an examination of recent evidence.* In International Population Conference, Florence, IT, 5-12 June 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 287-298 (fig., tables, 34 refs.) Fr ISSN 0254-5217

§ The age pattern of mortality for some national and subnational populations in Africa is described making use of sources that have become available recently. These include data from single-round as well as multiround surveys. A technique is described for exploiting the information contained in maternity histories for the study of age patterns of mortality in childhood. Second, whether information on adult mortality can be derived from questions about orphanhood is considered. The results reveal that, both within childhood and overall, age patterns of mortality vary greatly. Moreover, populations with similar levels of mortality and populations in close geographical proximity can exhibit very different mortality patterns. Nevertheless, relatively high mortality at ages 1-4 compared with infant and with adult mortality does appear to be characteristic of many populations, especially in West Africa. None of the one-parameter families of model life tables provides a satisfactory description of the age patterns of mortality identified. Among the most useful life tables are two-parameter relational models based on Brass's African standard. (AU)

088 Blanchy, S. 1983. *Etat sanitaire de Mayotte en 1981.* Bulletin de la Société de Pathologie Exotique et de ses Filiales, 76(1), 95-100 (9 réf.) En

§ Sur la foi des données tirées des dossiers d'hôpitaux et des estimations obtenues des enquêtes portant sur les villages, l'auteur examine les taux de mortalité et de morbidité à Mayotte. Selon lui, malgré l'amélioration de la situation depuis 1975, année où Mayotte s'est séparée des îles Comores, d'autres progrès, par exemple sur la plan de la santé des nourrissons et jeunes enfants, ne résulteront que de l'amélioration des conditions économiques et environnementales (y compris l'approvisionnement en eau). (F.M. traduit)

089 Block, G. 1982. *A review of validations of dietary assessment methods.* American Journal of Epidemiology, 115, 492-505 (50 refs.)

§ This review describes the following dietary intake assessment methods: history method, 24-hour recall method, 7-day recall, 7-day record, and short-cut methods. The meaning of validation in this context is discussed and studies that have addressed the reliability or validity of the methods are reviewed. The author concludes that, although most of the methods have some degree of validity when measured against each other, further attempts to perfect and validate the methods are desirable, particularly with regard to short-cut approaches suitable for large-scale studies. (AU modified)

090 Blom, D.H. 1980. *Objective indicators of health in western Zambia.* Social Science and Medicine (Aberdeen, UK), 15B(3), 395-398 (tables, 5 refs.)

§ In this paper a short introduction is given to the general topic of health and health related indicators, emphasizing the need and the difficulty of constructing indicators that are appropriate for specific situations and specific questions. The nonexistence of vital statistics in most Third World rural areas is then discussed, with comment on some solutions proposed to generate health indicators from defective data. It is argued that the problem becomes more urgent with the growing attention to primary health care programs. A new indicator is then introduced, called the survival index, which is the relation between gravidity and number of children alive. This indicator is illustrated with some preliminary data. The possible uses and restrictions are discussed and indications are given for further research needed for development of this indicator or related types. (AU)

091 **Boerma, J.T., Van Vianen, H.A.W.** 1984. *Birth interval, mortality and growth of children in a rural area in Kenya.* Journal of Biosocial Sciences, 16(4), 475-486 (tables, 16 refs.) ISSN 0021-9320

§ This paper analyzes the impact of the length of birth intervals on mortality and growth of young children. An attempt is made to improve the methodology of birth interval studies and the results of an analysis of longitudinal data from the Northern Division of Machakos District, Kenya, are presented. The sample size is 3019 women who had a least one live birth between 1974 and 1981. It is shown that children with short retrospective or short prospective birth intervals do not run a higher risk of mortality or growth retardation than children with longer intervals, during the perinatal period or the first 2 years of life. This suggests that the socioeconomic setting in which a birth interval study is carried out is of ultimate importance. (AU modified)

092 **Bongaarts, J.** 1978. *A framework for analyzing the proximate determinants of fertility.* Population and Development Review, 4(1), 105-132 (tables, figs., 41 refs.) ISSN 0098 7921

§ The author presents an analytical model for examining and quantifying relationships between fertility and intermediate fertility variables. Eight intermediate variables are identified and grouped as follows: exposure factors (proportion married); deliberate marital fertility control factors (contraception, induced abortion); natural marital fertility factors (lactational infecundability); frequency of intercourse; sterility; spontaneous intrauterine mortality; duration of the fertile period. Analysis shows that marriage, contraception, lactation, and induced abortion are the main proximate determinants of fertility differentials. The author indicates that, because the data requirements of the model are not great, the model has widespread applicability. (F.M.)

093 **Bongaarts, J.** 1979. *The fertility impact of traditional and changing childspacing practices in tropical Africa.* Center for Policy Studies Working Paper, No.42, The Population Council, New York, US. 27 p. (tables, fig., 11 ref.)

§ The primary purpose of this paper is to estimate the fertility-inhibiting effect of postpartum infecundability. A general analytic framework for studying the relationship between fertility and its direct determinants - the intermediate fertility variables - is outlined first. The framework is then used to make quantitative estimates of the variations in the level of marital fertility that result from changes in the duration of postpartum infecundability, both in the presence and absence of contraception. (AU modified)

094 **Bongaarts, J., Frank, O., Lesthaeghe, R.** 1984. *The proximate determinants of fertility in sub-Saharan Africa.* Population and Development Review, 10(3), 511-537 (tables, figs., maps, 25 refs.)

§ Given the current search in sub-Saharan African countries for effective policies to reduce excessive fertility to effect a decline in the rates of population growth, the authors argue that the design and implementation of such policies would greatly benefit from a detailed understanding of the socioeconomic, cultural, biological, and environmental factors that determine fertility. This paper seeks to contribute such understanding by providing an assessment of the proximate determinants of fertility levels and differentials for the region. The following proximate determinants are considered: proportion of women married or in sexual unions; frequency of intercourse; postpartum abstinence; lactational amenorrhea, contraception; induced abortion; spontaneous intrauterine mortality; natural sterility; pathological sterility. In sub-Saharan Africa, lactational amenorrhea, postpartum abstinence, and natural sterility are the major proximate variables determining fertility differentials. An approach to quantifying the effect of the proximate determinants by considering them as inhibitors of fertility is discussed and implications for future trends in fertility are drawn. (AU modified)

095 Booker, W., Singh, P., Savané, L. 1980. *Household survey experience in Africa.* LSMS Working Paper, no.6, World Bank Development Research Center, Washington, DC, US. 54p. (refs.)

§ This report comprises three separate documents. In the first, "Development of African surveys and measurement of levels of living," Booker examines the development of African household survey capabilities with reference to the measurement of levels of living. He also indicates the extent to which analysis of the data has proceeded in an examination to the interrelationship of the socioeconomic and demographic variables measured. In the second paper, Singh discusses "Kenya's data on living standards." He focuses on the National Integrated Sample Survey Programme, 1974-79, its components (such as the two rounds of the survey on the nutritional status of children and the national demographic survey), and proposals to establish District Information Development Centres. Finally, Landing in his paper, "Experimental survey of household budgets and consumption in Senegal 1973-75," discusses the problems associated with this survey, the methodology used, and provisional results. (F.M.)

096 Böttiger, M., Litvinov, S., Assaad, F., Lundbeck, H., Heller, L., Beausoleil, E.G. 1981. *Antibodies against poliomyelitis and measles viruses in immunized and unimmunized children. Ghana 1976-78.* Bulletin of the World Health Organization, 59(5), 729-736 (tables, 16 refs.) Fr

§ The authors report research findings from a study whose aim was to assess the feasibility, effectiveness, and cost of alternative vaccination programs. Two groups of 250 children each were selected for study from two rural areas in Ghana, one group was aged 3-8 months, the second, 9-14 months. The main conclusions reached were two doses of poliomyelitis vaccine provide inadequate protection against poliomyelitis; vaccination against measles should be given as soon as possible after the age of 8 months; further research is needed to determine the optimum age for vaccination and the time interval between doses. (F.M.)

097 Bourgade, H., Decaillet, F., Penavaire, R. 1982. *Application de la théorie des graphes et des chaînes de Markov à la mesure de l'impact nutritionnel des programmes d'alimentation complémentaire.* Revue française de la santé publique, no.20, 46-54 (tables, fig., 12 réf.)

§ L'auteur présente une application de la théorie des graphes et des chaines de Markov à l'évaluation de la mesure de l'impact nutritionnel d'un programme d'alimentation complémentaire pour les enfants de 6 mois à 6 ans réfugiés au camp d'Halgane, République Démocratique de Somalie. L'auteur conclut que cette méthode apporte les éléments permettant d'affiner l'analyse du comportement de la population face au traitement et d'orienter précocément la thérapeutique en fonction des objectifs prédéfinis et des conditions particulières locales. (AU modifié)

098 Bradley, A.K., Gilles, H.M. 1981. *Malumfashi Endemic Diseases Research Project XVII: A knowledge-attitude-practice survey on perception of disease and fertility.* Annals of Tropical Medicine and Parasitology, 75(6), 581-590 (tables, 14 refs.) ISSN 0003-4983

§ A knowledge-attitude-practice survey was undertaken in 1977 on a random sample of 255 mothers of children in the malaria study of the Endemic Diseases Research Project at Malumfashi, northern Nigeria. Attention was directed at important illnesses prevalent in the community and at factors related to fertility. Malumfashi would seem to represent a conservative society espousing traditional values, although outside influences are having an effect. Treatment for the common conditions of fever, diarrhea, marasmus, and measles combined traditional and Western practices, although what little knowledge existed about prevention of disease consisted of Western techniques. Foods such as meat, eggs, and fish, which Western teaching regards as important, were not considered so, but reliance on guineacorn meant that most nutritional needs were met. Many of the food preferences in different disease or health states were sensible. (AU)

099 Bradley, A.K., Macfarlane, S.B.J., Moody, J.B., Gilles, H.M., Blacker,

J.G.C., **Musa, B.D.** 1982. *Malumfashi Endemic Diseases Research Project. XX. Demographic Findings: mortality.* Annals of Tropical Medicine and Parasitology, 76(4), 393-404 (tables, 25 refs.) ISSN 0003-4983

§ Population studies were undertaken as part of the Endemic Diseases Research Project at Malumfashi, northern Nigeria, 1974-78. This paper is concerned with estimates of mortality. Analyses of prospective registration data indicate underreporting of deaths and so reliance is placed on estimates derived from the application of indirect techniques to retrospective enumeration data. Infants accounted for 27% of all reported deaths and 64% of deaths occurred during the wet season. Estimates of infant and child mortality are combined with estimates of adult mortality to produce a current model life table for Malumfashi. The table suggests an infant mortality rate of 170 per 1000 and a total mortality in the first 5 years of life of about 320 per 1000 live births. There is some indication that infant mortality has fallen, in recent years, from well over 200 per 1000. This may have resulted in part from the establishment of mother and child health clinics in the area. All data point to a higher expectation of life for women than men. Moderately heavy overall mortality is suggested by a crude death rate of 26 per 1000. The crude rate of natural increase is probably about 2.9%. (AU)

100 **Bradley, A.K., Gilles, H.M.** 1984. *Malumfashi Endemic Diseases Research Project. XXI: Pointers to causes of death in the Malumfashi area, northern Nigeria.* Annals of Tropical Medicine and Parasitology, 78(3), 265-271 (tables, 14 refs.) ISSN 0003-4983

§ For 228 of 425 deaths (54%) occurring among 26,100 people of known age in the Malumfashi area of northern Nigeria, data were collected on symptoms present prior to death. Information was obtained on monthly registration visits, as part of demographic investigations, and data for November 1977 to October 1978 have been analyzed. Enumerators used a carefully prepared list of 25 symptoms to elicit information from relatives of the deceased. Pyrexia, diarrhea, and measles accounted for 77% of all deaths. Epidemiological determinants were responsible for all cases of meningococcal infections in the dry season and most cases of diarrhea in the wet season. Most deaths attributed to measles occurred in the late dry season and early wet season. Epidemics of measles seemed to be localized at any one time in certain villages and the micro-epidemiology of this feature is considered. Malaria does not appear to be responsible for all deaths from pyrexia in the 0-4 age group. (AU)

101 **Bradley, D.J., Keymer, A.** 1984. *Parasitic diseases: measurement and mortality impact.* In Mosley, W.H., Chen, L., Child survival: strategies for research. Population and Development Review, Supplement to vol.10, The Population Council, US. 163-187 (table, 91 refs.) ISSN 0098-7921

§ Addressing issues concerned with the measurement and mortality impact of parasitic diseases, the paper is organized as follows: the major policy issues raised by parasitic disease in relation to child mortality are discussed; the second section summarizes the commoner parasites infecting humans and relates their pathology to four phases of child survival and development; sections three and four address the two main areas of parasitic impact in greater detail, the evidence for the scale of malarial mortality in childhood, and the relation between helminthic infection and nutritional damage to children; the last section discusses measurement of parasitic infection. (AU modified)

102 **Brainard, J.M.** 1981. *Herders to farmers: the effects of settlement on the demography of the Turkana population of Kenya.* University Microfilms International, Ann Arbor, US. 348 p. (tables, figs., maps, 139 refs.)

§ The main question addressed in this thesis is in what ways are the demographic processes in the nomadic, pastoralist portion of the Turkana population of Kenya likely to be affected by a new means of producing livelihood, irrigation agriculture. A comparison of the demographic characteristics of a long-settled group of Turkana farmers with those of a nomadic control group reveals that, although both settled and nomadic women past menopause have the same number of surviving children (4.4), nomadic women have more live births and a greater proportion of children dying. It is suggested that there is a strong causal connection between childhood mortality and live birthrate. This conclusion is reached after a number of other potential influences on the fertility differentials are ruled out. These are mainly factors relating to marriage: incidence and intensity of polygyny, marital types, marital instability, and age at first marriage. Potential intermediate variables of an ecological nature are then discussed and considered to be far more important, especially factors relating to differences in diet and morbidity between the two groups. It is stressed that many of the conclusions reached here are tentative and that more and better quality demographic data are needed. The data presented here are perhaps best treated as the results of a pilot study, suggesting important demographic characteristics and trends, and pointing out directions for further research to explain the findings. (AU)

103 **Brass, W., Coale, A.J., Demeny, P., Heisel, D.F., Lorimer, F., Van de Walle, E.** 1968. *The demography of tropical Africa.* Princeton University Press, Princeton, US. 540 p. (tables, figs., maps, refs.)

§ Chapters in this book, a classic text on demography in Africa, are organized in two sections: fertility, mortality, and nuptiality in tropical Africa, including data, methods of analysis, and summary of estimates; and case studies of the demography of areas covered by particular kinds of censuses or surveys. Part one includes an introduction by Lorimer and chapters on characteristics of African demographic data (Van de Walle), methods of analysis and estimation (Brass and Coale), a summary of estimates of fertility and mortality (Coale and Lorimer), and marriage in African censuses and inquiries (Van de Walle). Case studies in part two cover the Democratic Republic of the Congo (Romaniuk); Burkina Faso, Dahomey, Guinea, and North Cameroon (Brass); Angola, Mozambique, and Portuguese Guinea (Heisel); Sudan (Demeny); and Nigeria (Van de Walle). (F.M.)

104 **Brass, W.** 1975. *Methods for estimating fertility and mortality from limited and defective data.* Laboratories for Population Statistics, University of North Carolina, Chapel Hill, US. 159 p. (tables, figs., 31 refs.) Fr, Es

§ This monograph reviews a variety of techniques for estimating levels of fertility and mortality from incomplete or defective data. The basic principles underlying the adjustment of demographic data are discussed. Next, methods of estimating fertility are described. Methods of analyzing maternity histories and of estimating fertility from incomplete registration data using parity information are given. Estimates of age-specific mortality rates are developed from information on proportions of surviving children by age of mother and proportions of persons by age with parents surviving. Use of the logit transformation in the evaluation and adjustment of data and in the construction of life tables is described in detail. Emphasis is placed, not only on the theoretical development of each method, but also on solutions to practical problems that frequently arise. (AU abbrev.)

105 **Brass, W., Macrae, S.** 1986. *Mortalité aux jeunes âges estimée à partir des données recueillies auprès des mères au moment d'une naissance: la technique des naissances précédentes.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. 150-161 (tables, 6 refs.) IDRC-MR125f, INSAH no.5

§ Cet article démontre que les indices acceptables de la mortalité aux jeunes ages peuvent dériver de la collecte des histoires génésiques recueilliés au moment de l'enregistrement ou de la notification d'une naissance, méthode d'ailleurs peu répandue. La technique des naissances précédentes est particulièrement simple puisqu'elle requiert seulement une question sur le formulaire d'enregistrement ou de notification. Elle s'appelle ni analyse complexe, ni dépendance des données d'autres sources, ou les tables types de mortalité. (AU abrégé)

106 **Brasseur, D., Hennart, P., Goyens, P., Vis, H.L.** 1984. *Influence de la malnutrition proteo-énergétique sur la létalité en cas de diarrhée aigue au Kivu (Zaire).* Revue International de Pédiatrie, 142, 5-7 (8 réf) En ISSN 0048-8135

§ Des enfants hospitalisés, 10,7 % sont décédés. Le risque de décès est statistiquement associé à la durée de la diarrhée avant l'entrée, à l'arrêt de l'allaitement maternel et à la composante protéique de l'état nutritionnel c'est-à-dire le taux des albuminés sériques. Le mode de rehydratation orale plutôt qu'intraveineux semble offrir un pronostic meilleur chez ces enfants de surcroit mal nourris en dépit de la sévérité des lésions morphologiques et fonctionnelles de la muqueuse gestive constatée chez 57 d'entre eux. (PASCAL) *

107 **Briscoe, J.** 1984. *Water supply and health in developing countries: selective primary*

health care revisited. American Journal of Public Health, 74(9), 1009-1013 (tables, fig., 36 refs.) ISSN 0090-0036

§ The inclusion of water supply and sanitation programs as a component of primary health care (PHC) has been questioned on the basis of calculations of the costs of these programs per infant death averted. In this paper, the procedures used in these cost-effectiveness calculations are examined and found to be wanting. The calculations are misleading because gross rather than net costs have been used, and the health impact of these programs underestimated. It is also shown that the methodology is biased against water supply and sanitation and other programs with multiple outputs. The time constraints facing mothers in implementing PHC programs, as well as the contribution of improved water supplies in alleviating these constraints are outlined. Data are presented to show that, if poor women in developing countries were to choose the mix of activities to be included in PHC programs, improved water supplies would frequently constitute part of that mix. (AU)

108 Briscoe, J. 1984. *Technology and child survival: the example of sanitary engineering.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 237-253 (tables, figs., 29 refs.)

§ This paper focuses attention on conceptual models in a specific sector, namely water supply and sanitation, that has played a fundamental role in reducing infant mortality in industrialized countries, and from which a similar contribution is expected in developing countries. The analysis is intended to demonstrate how conceptual frameworks arise in response to specific challenges, how they are modified to meet different situations, and how this process of revision must continue. In particular it is argued that behavioural and epidemiological variables are central to a conceptual framework appropriate to sanitary engineers in the Third World. Through discussion of specific examples, a general methodology is presented for determining priority research needs when there is uncertainty about the values of many relevant parameters. (AU modified)

109 Brogger, S., Storey, J., Thomas, D. 1980. *Demography.* In Molineaux, L., Gramiccia, G., The Garki Project: research on the epidemiology and control of malaria in the Sudan savanna of west Africa. World Health Organization, Geneva, CH. 231-249 (figs., refs.) ISBN 92-4-156061-4

§ Demographic data, collected as part of the Garki Project on the epidemiology and control of malaria (1969-76) was used to calculate, inter alia, age-specific indices of malaria, particularly among newborn and very young children and to ascertain mortality rates. Information on 7500 people in 22 villages was obtained in a longitudinal study. Findings indicated that the infant mortality rate (IMR), estimated from the proportion of infants dying between consecutive surveys, dropped from 245 per 1000 per year in the baseline, pretreatment year to 55 per 1000 in the treated villages in the first intervention year. (In that same year, the IMR in the untreated villages was 135 per 1000 per year, but the difference between treated and untreated is significant.) The baseline death rate in the 1-4 year age group was high (154 per 1000 per year). In the wet season this rate (IMR), under treatment, became significantly lower in the treated than in the untreated villages. (AU modified)

110 Brown, J.E., Brown, R.C. 1977. *Finding the causes of protein-energy malnutrition in a community; Part II: the causes of malnutrition at Bulape, Zaire.* Journal of Tropical Pediatrics and Environmental Child Health, 23(19), 254-261 (tables, 7 refs.)

§ Practical applications of the checklist for causes of protein-caloric malnutrition and the sampling techniques described previously in this series were carried out in Bulape, Zaire, from 1973 to 1976. The surveys showed that food supplies were adequate in all households and that nutrition-related problems were in the area of food use and feeding practices. Major problems were then ranked according to their frequency, seriousness, and possibility of improvement. Of highest priority was the need for a policy of family planning emphasizing child spacing to combat the problem of early weaning. Also important was the need to improve the diet of small children by increasing protein content and teaching mothers better ways to prepare food. (SALUS)

111 Brown, J.E., Brown, R.C. 1979. *Evaluation of nutrition centre effectiveness by measurement of younger siblings.*

Transactions of the Royal Society of Tropical Medicine and Hygiene, 73(1), 70-73 (tables, 7 refs.) ISSN 0035-9203

§ In a nutrition study in Bulape, Zaire, the nutritional status of 30 children, aged 8-24 months, was evaluated by means of anthropometric measurements at the time of their admission to the village nutrition centre. Their younger siblings were later measured at the same age. Comparison of these results with the measurements of the younger siblings of a matched control group showed the same growth patterns, indicating that centre teaching had apparently not affected the way mothers fed their younger children or the children's growth. Statistical data are included. (SALUS)

112 **Brown, K.H.** 1983. *Measurement of dietary intake.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 69-91 (tables, figs., 65 refs.)

§ This review discusses the purposes, methods, and interpretation of qualitative and quantitative methods used in measuring dietary intake, with an emphasis on problems encountered in Third World countries. Methods, including the dietary history, dietary recall, dietary questionnaire, food weighing, and food diary, are described; sources of variability in dietary data and problems in the validation and relative comparability of dietary study methods are discussed. The author suggests that multiple studies are necessary to gain reasonably accurate results, but the methods used must be chosen in the context of the study objectives and financial and personnel constraints. (F.M.)

113 **Brun, T.** 1975. *Manifestations nutritionnelles et médicales de la famine.* In Copans, J., Sécheresses et famines du Sahel: écologie, dénutrition, assistance, vol. 1. François Maspero, Paris, FR. 75-108 (tables, 10 réf.) ISBN 2-7071-0759-X

§ Ce chapitre a pour objet d'examiner les conséquences nutritionnelles, médicales et sociales de la famine observées au début des années 70 dans le Sahel. L'auteur présente des données sur la mortalité et la nutrition chez les nourrissons et jeunes enfants des populations tant nomades que sédentaires, et aborde les questions de la production alimentaire locale, de la migration provoquée par la famine, des bouleversements sociaux et familiaux liés à la famine et des problèmes découlant de l'aide alimentaire. (F.M. traduit)

114 **Bruno, D.** 1982. *Analyse de la mortalité.* Institut de Formation et de Recherche Démographique, Yaoundé, CM. 194p. (tables, fig., réf.) Fr

§ Ce manuel présente les principales méthodes de mesure de la mortalité. Elles supposent généralement que les problèmes posés par la qualité souvent défectueuse des données statistiques de base sont résolus. Après l'exposé détaillé de chaque méthode, un accent particulier est mis sur les moyens concrets d'employer celle-ci à partir des données des enquêtes ou des recensements, tels qu'on les mène en Afrique. (AU)

115 **Bucht, B., Chamie, J.** 1982. *Estimates and projections of infant mortality rates.* 51st Annual Meeting of the Population association of America, San Diego, US, 29 April-1 May 1982. 35p. (tables, figs., 30 refs.)

§ The United Nations Population Division recently completed a comprehensive project that provides estimates and projections of infant mortality for all countries of the world for the period 1950-2025. This paper reviews the estimates and projections produced by the project. The various sources and quality of the data as well as the indirect demographic techniques employed to estimate the levels of infant mortality are reviewed and evaluated. To highlight the issues and problems, a few selected countries are examined in detail. The paper concludes with a discussion of the implications of the results and offers suggestions regarding directions for future research. (AU abbrev.)

116 **Buzzard, S.** 1984. *Appropriate research for primary health care: an anthropologist's view.* Social Science and Medicine, 19(3), 273-277 (27 refs.) ISSN 0277-9536

§ In primary health care (PHC) projects, it has become customary to conduct all-purpose surveys early in the project. These are usually based on questionnaires administered to a relatively large sample of the population and elicit information on demography, living conditions, health status, sanitary facilities, and socioeconomic attributes of the population. In addition to providing baseline data on the indicators of program success, it is recommended that a distinction be made between different types of data collection efforts and that consideration be given to the timing of so as not to raise community expections. Early in the project, a survey of demographic characteristics and health indicators may be appropriate. However, major surveys of living conditions and health problems are better delayed until the program is in operation and can be used as mechanisms for community participation, motivation, and education. The limitation on the use of questionnaires is discussed. Because anthropological methods are more suited to the skills of health promoters and yield valuable behavioural data, it is suggested that anthropologists encourage the use of these alternatives to questionnaires. The use of participant observation, life stories, interviews, mapping, and essays is discussed in the context of PHC programs. (AU)

117 **Bwibo, N.O.** 1980. *Practice of paediatrics and child health in East Africa (1970-1979) and prospects for the next decade.* East African Medical Journal, 57(8), 515-523 (38 refs.) ISSN 0012-835

§ This article reviews activities in the field of child health in East Africa from 1970 to 1979. Mortality rates, although not accurately known, and case fatality rates from acute infections and malnutrition were still high. There was appreciable expansion in rural health services through the provision of maternal and child health services. Training programs provided paramedical and medical staff for expanded pediatric services in the communities. Research projects were many and varied, emphasizing infectious diseases, nutrition, newborns, and operational research. Future needs are also described. (AU)

118 **Caldwell, J.C., Caldwell, P.** *Cultural forces tending to sustain high fertility in tropical Africa (with some mention of mortality).* Unpublished. 64 p. (165 refs.)

§ In the context of persistent high fertility, which the authors argue is not related solely to poverty, to limited mortality decline, or to lack of family planning programs, the focus of the paper is on cultural explanation as evidenced, for the most part, in anthropological research. Among the variables considered are religion (African, Christian, Islamic); attitudes to barrenness, child death, and limited numbers of children; the nature of the family and lineage system (in particular the bridewealth system); land tenure systems and attitudes to land; political leadership and fertility control; and birth control. (F.M.)

119 **Caldwell, J.C., Addo, N.O., Gaisie, S.K., Igun, A., Olusanya, P.O.** 1975. *Population growth and socioeconomic change in West Africa.* Columbia University Press, New York, US. 763p. (tables, graphs, maps, refs.) ISBN 0-231-23732-5

§ This book brings together 37 papers that address issues relating to the economic and social implications of population increase for both anglophone and francophone countries of West Africa. The range of topics indludes fertility and mortality levels and trends; migration; urbanization; and population policy. (See also Cantrelle 1975.) (F.M.)

120 **Caldwell, J.C., Caldwell, P.** 1977. *The role of marital sexual abstinence in determining fertility: a study of the Yoruba in Nigeria.* Population Studies, 31(2), 193-217 (tables, 51 refs.)

§ Using data from five probability sample surveys of Yoruba women carried out in Ogun, Ondo, Oyo, and Lagos states between 1973 and 1975, the authors investigate the incidence of marital abstinence in Yoruba society, the reasons advanced for it, the mechanisms that allow it, its impact on fertility, and the change that is taking place. They conclude that postnatal sexual abstinence, and not prolonged postnatal lactation, is the major control on fertility in Yoruba society and in much of sub-Saharan Africa. The main reason for such abstinence was to ensure a minimum interpregnancy interval to maximize the duration of lactation and the likelihood of child survival. (AU modified)

121 **Caldwell, J.C., Caldwell, P.** 1978. *Achieved small family: early fertility transition in an African city.* Studies in Family Planning, 9(1), 1-18 (tables, 21 refs.)

§ To find ways to encourage family planning, the characteristics of Yoruba women (Nigeria) who deliberately chose to limit the size of their families are examined. Data from surveys carried out in 1973 and 1974-75 indicate that these women had generally received some secondary education and were married to nonmanual workers, these families differed from the norm in terms of emotional closeness and child-centredness, financial strains were stressed as a major reason for limiting family size, etc. The small families experience a low level of child mortality that is not explained by their socioeconomic conditions. Statistical data are included. (SALUS)

122 **Caldwell, J.C.** 1979. *Education as a factor in mortality decline: an examination of Nigerian data.* Population Studies, 33(3), 395-413 (tables, 73 refs.) ISSN 0032-4728

§ The debate between those who see economic development and those who regard advances in medical technology as bearing major responsibility for mortality decline usually gives little attention to different stages of social change when economic or medical conditions are fixed. However, Nigerian statistics analyzed here show that very different levels of child survivorship result from different levels of maternal education in an otherwise similar socioeconomic context and when there is equal access to the use of medical facilities. Indeed, maternal education in Nigeria appears to be the single most powerful determinant of the level of child mortality. The statistics come from two surveys undertaken in 1973: one of 6606 women in Ibadan city, and the other of 1499 women in a large area of southwest Nigeria. Proportions of children surviving are compounded into an index of child mortality to increase the frequencies in individual cells and standardize maternal age when child survivorship is correlated with a range of factors; two component indices are also constructed to detect change over time. It is concluded that women's education in societies like that of the Yoruba in Nigeria can produce profound changes in family structure and relationships, which in turn may influence both mortality and fertility levels. Education may well play a major role in the demographic transition and this role may help to explain the close timing of mortality and fertility transitions. (AU)

123 **Caldwell, J.C.** 1981. *Maternal education as a factor in child mortality.* World Health Forum, 2(1), 75-78 (21 refs.)

§ The author considers three explanations for the research finding that maternal education is a significant determinant of child mortality: educated mothers break with tradition and take initiative in child care and illness treatment; educated mothers are more capable of dealing with the modern world, e.g., Western medicine; education of women substantially changes the balance of power in family relationships. The last explanation is considered by far the most important. It is argued that education changes not only the attitudes of the educated but also the attitudes of others to them. In this situation, an educated woman is more likely to assume personal responsibility and take initiative in action. (F.M.)

124 **Caldwell, J.C.** 1981. *Perspectives on fertility and mortality in Africa.* In Population dynamics: fertility and mortality in Africa. Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov-1 Dec 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 32-48 ST/ECA/SER.A/1

§ In this paper, priority areas for research in demographic change in Africa are identified, with an emphasis on the socioeconomic context of such change. The author relates the issues he raises to the persistence of high fertility and high mortality in Africa. Topics include the need to conduct research into familial as well as societal power structures; fertility control; types of marriage; the relationship between economic change and changes in fertility and mortality; the interrelationship between fertility and mortality; mortality trends; the impact and cost of health services; cause and multiple causation; family behaviour and mortality; scale of research (micro-research); and theoretical frameworks. (F.M.)

125 **Caldwell, J.C., McDonald, P.** 1981. *Influence of maternal education on infant and child mortality: levels and causes.* In IUSSP International Population Conference, solicited papers, vol. 2. 19th general conference of International Union for the Scientific Study of Population, Manila, PH. IUSSP, Ordina Editions, Liege, BE. pp. 79-96 (tables, refs.) Fr

§ Data from the World Fertility Survey in 10 Third World countries are used to test the conclusion, based on a Nigerian study, that maternal education is important in reducing child mortality. The analysis confirms the major importance of parental education, the impact of which is probably greater than both income factors and access to health facilities combined. Rural-urban differentials are also of small importance compared to parental education. The findings of the Nigerian study are modified in that paternal education is also shown to be important, although not as important as maternal education, and the step from primary to secondary schooling is more important than that from illiteracy to primary schooling. Reasons for the importance of parental education are also discussed. (Population Index)

126 **Caldwell, J.C., Hill, A.G.** 1985. *Recent developments using micro-approaches to*

demographic research. In International Population Conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. pp. 235-248 (76 refs) Fr ISBN 2-87108-009-9 ISSN 0254-5217

§ The shortcomings of social science research on demographic issues are attributable both to a preoccupation with measurement issues and methodologies, and to an unwillingness to make use of sources of information other than the questionnaire-based survey. To progress, several theoretical problems have to be faced. There are important issues to be addressed concerning the validity of the concept of social facts versus the individualists, and the conceptual framework within which accounts of the trends and levels in the main demographic parameters are couched. Close study of small groups permits the researcher to consider more complex models than the single-variable models using the beguilingly simple concept of proximate determinants. Biographical work, for example, brings out relationships and causes not easily modeled in the conventional way, even by the methods of household economics. One difficulty with any research that involves a great deal of subjective judgement and selection is the production of proof (or disproof) acceptable to the statistically-minded social science community. An attractive possibility is the fuller exploitation of the now quite numerous natural experiments under way in different countries as a result of interventions for development. Some bonuses obtained from adopting the micro-level approach include the ability to look at the accounting units used for intergenerational transfers and to separate "rules" from practice by observation. (AU abbrev.)

127 Callum, C. 1983. *Results of an ad hoc survey on infant and child mortality in Sudan: a summary report.* World Health Statistics Quarterly, 36(2), 80-99 (tables, 6 refs.)

§ The paper presents the results of a survey of infant and child mortality carried out in the Khartoum, Blue Nile, Kassala, and Kordofan provinces of northern Sudan in 1975-76. A single-round, retrospective survey of selected households was followed by a prospective survey which consisted of three monthly visits to households included at the retrospective stage. The findings are discussed with respect to mortality levels and differentials and the principal causes of death and morbidity; the use of and access to health services; the relationship between environment and nutritional status. The writer concludes that as the ad hoc survey covered the more privileged members of the population, it underestimates the scale of problems associated with environmental factors, feeding practices, and inadequate provision and use of health care facilities. Policy recommendations, which include a vaccination program, are made. (AU modified)

128 Campbell, E.K., Getaweh, S.M. 1982. *Male participation in fertility regulation in Liberia: research and policy implications.* University of Liberia, Demographic Unit, No.2, 78 p. (tables, 29 refs.)

§ This document is the result of a pilot study on men's role in fertility regulation in Liberia. The primary aspect studied is the decision-making process in fertility regulation among married couples. Also included are the relationships between infant and child mortality and men's desired family sizes, sex of child, and the impact of replacement of a child on decision-making over fertility. The primary source of data is a sample survey of 100 males, between the ages of 15 and 39, in Robertsport. (POPLINE abbrev.)

129 Cant, A., Gould, M., Brooke, O.G., Rowland, R. 1982. *A nutritional study of under-fives in eastern Rwanda.* Journal of Tropical Pediatrics, 28(1), 5-7 (figs., table, 9 refs.) ISSN 0142-6338

§ An anthropometric survey of 800 children under 5 years old in two Rwandan settlements indicated that 247 (31%) were stunted and 12 (1.5%) were wasted. Evidence indicated that the stunting was nutritionally determined and was lower among children who had received specially prepared weaning supplements. The authors stress the importance of height measurements in assessing nutritional status in order not to underestimate malnutrition. (F.M.)

130 Cantrelle, P. 1975. *Mortality levels, patterns and trends.* In Caldwell, J.C., Addo, N.O., Gaisie, S.K., Igun, A., Olusanya, P.O., Population growth and socioeconomic change in West Africa. Columbia University Press, New York, US. 99-118 (tables, refs.) ISBN 0-231-23732-5

§ Noting a lack of accurate mortality data in

West Africa at the time of writing and methodological problems associated with the existing data, the author discusses mortality estimates, then focuses on variations in mortality according to both physical and human environments. In particular, the seasonality of infant and child mortality and the effect of urbanization on mortality are considered. (F.M.)

131 **Cantrelle, P., Ferry, B., Mondot, J.** 1978. *Relationships between fertility and mortality in tropical Africa.* In Preston, S.H., The effects of infant and child mortality on fertility. Academic Press, New York, US. 181-205 (tables, 86 refs.) ISBN 0-12-564440-X

§ Using data on aggregates and on individuals, the authors examine the relationship between fertility and child mortality. In the context of limited data, two sets of intermediate variables are considered: pathological factors, particularly infections and malnutrition; breastfeeding and postpartum amenorrhea. The authors conclude that although data at the individual level support the notion of a positive relation between fertility and mortality, research so far does not allow an accurate assessment of this relationship. They suggest that data from the World Fertility Survey, analyzed in the context of an intervening variables framework, should provide better estimates of the potential impact of reduction of child mortality or fertility. (F.M.)

132 **Cantrelle, P.** 1979. *Inégalités face à la mort.* In Population science in the service of mankind: conference on science in the service of life, Vienna, AT. International Union for the Scientific Study of Population, Liège, BE. pp. 81-93 (17 réf.)

§ À la lumière des résultats de la recherche sur la variation des taux de mortalité chez les nourrissons et les enfants âgés de 1 à 4 ans issus de trois milieux différents (urbain, semi-urbain et rural) au Sénégal, l'auteur discute des principales causes de décès et de la disponibilité de différents services de santé. La conclusion à laquelle l'auteur est parvenu est celle-ci : l'amélioration de l'état de santé et la diminution de la mortalité infantile résulteront pour la majorité de la population d'une réorientation du système de soins plutôt que des nouvelles découvertes. (F.M. traduit)

133 **Cantrelle, P.** 1980. *Infant and child morbidity during the rainy season in Sine Saloum.* African Environment, 4 (parts 2-4, 14-16), 409-423 (tables, figs., 4 refs.) ISSN 0032-4728

§ Data from multiround surveys carried out between 1963 and 1977 in two villages in Senegal are analyzed in this report. Findings indicate an estimated infant mortality rate of 200 per 1000, whereas for the age group 1-4 years, a mortality rate of 246 per 1000 is recorded. This latter rate is explained in terms of the synergy between infectious diseases and food deficiencies in the area. The incidence of child mortality is higher at the end of the rainy season. (F.M.)

134 **Cantrelle, P., Livenais, P., Leridon, H.** 1980. *Fécondité, allaitement et mortalité infantile : différences inter-ethniques dans une même région Saloum (Sénégal).* Population, 35(3), 623-647 (tables, fig., carte, 5 réf.) En, Es

§ Les études sur les relations entre fécondité, allaitement et mortalité infantile, se sont beaucoup développées dans les années récentes, en particulier grâce à la réalisation d'enquêtes à passages répétés. A partir des données d'une enquête de ce type effectuée au Saloum (Sénégal), on s'est attaché ici à mettre en évidence les différences éventuelles selon l'ethnie ou la caste, au sein d'une population vivant dans une même région (moins de 50,000 ha). L'enquête confirme d'abord un résultat déjà obtenu dans une autre région du Sénégal, le Sine : une forte surmortalité entre 9 et 24 mois. L'effet de l'allaitement sur l'intervalle moyen entre naissances apparait nettement dans les deux régions, mais l'intensité de la relation n'est pas la même. La mortalité infantile varie considérablement selon l'ethnie ou la caste : de 73 à 210 p. 1000. De son côté, le quotient de mortalité de 0 à 4 ans varie de 175 à 467 p. 1000. La fécondité est nettement plus faible dans l'une des ethnies (Peul), où la mortalité est également plus basse, mais l'allaitement y est aussi prolongé qu'ailleurs. Une meilleure nutrition pourrait expliquer le faible niveau de la mortalité, mais l'effet sur la fécondité devrait être contraire. (AU)

135 **Cantrelle, P.** 1980. *Orientations et méthodes de la recherche sur les aspects médicaux de la mortalité des enfants dans le tiers-monde.* In La mortalité des enfants dans le tiers-monde : orientations et méthodes de recherche. Ordina Editions, Liège, BE. pp. 139-171 (tables, 21 réf.) ISBN 2-87040-017-9

§ La mortalité, variable dépendante, est déterminée directement par les causes de décès et l'état de santé, facteurs pathologiques, qu'on appellera variables intermédiaires, et indirectement par des variables dites indépendantes ou explicatives que sont le milieu physique et le milieu humain avec ses caractéristiques socio-culturelles et ses conditions économiques. L'action médico-sanitaire est à inclure parmi les variables indépendantes. Pour la commodité de l'exposé, l'auteur examine les méthodes de recherche sur les aspects médicaux séparément dans les trois catégories de variables : dépendante, intermédiaires et indépendantes. (AU)

136 **Cantrelle, P., Ly, V.** 1980. *La mortalité des enfants en Afrique.* In Boulanger, P.M., Tabutin, D., La mortalité des enfants dans le monde et dans l'histoire. Ordina Editions, Liège, BE. pp. 197-221 (tables, fig., 48 réf.)

§ Les données sur la mortalité infantile et juvénile en Afrique sont fragmentaires; elles proviennent pour la plupart de statistiques vitales, peu fiables dans les zones rurales. Les toutes dernières données montrent que le taux de mortalité chez les enfants de 1 à 4 ans est beaucoup plus élevé que chez les enfants de moins d'un an dans nombre des pays africains; ceci est peut-être dû au fait que des taux de mortalité élevés sont observés pendant la deuxième année. En général, le taux de mortalité est moins élevé en Afrique orientale qu'en Afrique occidentale. Les données sur les causes de la mortalité infantile ne sont disponibles que pour certains pays africains, dont l'Algérie, le Sénégal, la Nigérie et l'Ile Maurice. Les principales causes de décès chez les nourrissons et les jeunes enfants sont les maladies infectieuses et les parasitoses, notamment l'entérite et les maladies des voies respiratoires; la diarrhée et la rubéole étant responsables du plus grand nombre de décès. Les taux de mortalité varient considérablement selon les saisons et les zones. (POPLINE abrégé et traduit)

137 **Cantrelle, P., Diop, I.L., Garenne, M., Gueye, M., Sadio, A.** 1986. *The profile of mortality and its determinants in Senegal, 1960-1980.* In Determinants of mortality change and differentials in developing countries: the five-country case study project. Population Studies, no. 94, Department of International Economic and Social Affairs, New York, US. 86-116 (tables, map, 30 refs.) ST/ESA/SER.A/94 ISBN 92-1-151151-8

§ This study, whose objective is the analysis of data on mortality and its determinants in Senegal over the two decades since 1960, includes four major sections. The subject of the first is the development of health services, health infrastructure, and key health campaigns against malaria and measles. In the second section, the general situation with respect to mortality trends and levels is analyzed, and the particular situation in Dakar and Saint-Louis is discussed. Data are drawn from three basic demographic surveys and the Senegal fertility survey. Determinants of mortality in infancy and childhood are the focus of attention in the third section. Relying primarily on the 1978 fertility survey and data from the multiround surveys of 1970-71, multivariate analyses are carried out to assess the relative importance of demographic, cultural, socioeconomic, and regional factors. Seasonal variations in mortality are also discussed. Finally, the results of an in-depth study of mortality carried out between 1963 and 1981 in Ngayokhème, a rural area, are presented. (F.M.)

138 **Caraël, M.** 1977. *Relations between birth intervals and nutrition in three central African populations (Zaire).* Plenum Press, New York, US. pp. 365-384 (tables, 53 refs.) ISBN 0 306 311224

§ The author discusses the relationship between lactation and postpartum amenorrhea in two ecological areas in Zaire. In one area, of equatorial forest, a well balanced diet is the norm; in the other highland area, moderate protein-caloric malnutrition is common. Analysis is based on data collected from a retrospective and cross-sectional study in these areas. Although the data are too fragmentary to allow a definitive conclusion, findings indicate that, in a rural environment characterized by moderate chronic malnutrition with unbalanced supplies of protein and lipid, postpartum amenorrhea is prolonged by 7-9 months in lactating women. (F.M.) *

139 **Caraël, M.** 1978. *Les relations allaitement, aménorrhée post-partum et nutrition : une hypothèse. Trois populations au Zaire.* Population et Famille, 43(1). 131-153 (tables, fig., 42 réf.) En

§ Trois populations du Zaïre qui appartiennent à deux milieux écologiques différents - la forêt tropicale et les hauts-plateaux - sont comparées sur les plans nutritionnel et démographique. L'étude est centrée sur les composantes des intervalles entre naissances; les résultats suggèrent une influence importante de la malnutrition protéo-calorique sur la durée d'aménorrhée post-partum. Cette durée d'aménorrhée post-partum est en effet de 18.7 mois chez les populations mal nourries des hauts-plateaux, avec comme corollaire un intervalle moyen entre naissances de 38-39 mois. Cette étude souligne l'importance de la nutrition qui, en régime de fécondité naturelle, agit à la fois sur les durées d'allaitement et d'aménorrhée post-partum. (AU)

140 **Caraël, M.** 1979. *Espacement des naissances, nutrition et écologie au Kivu (Zaïre).* Population et Famille, 47(2), 81-99 (tables, 15 réf.)

§ A la différence de nombreuses sociétés d'Afrique tropicale, les interdits sexuels post-partum de longue durée n'existent pas en Afrique interlacustre. La coutume prescrit pourtant une norme de trois ans entre les naissances et l'allaitement du dernier-né jusque la grossesse suivante. Nos observations montrent qu'en milieu rural traditionel, les intervalles entre naissances peuvent atteindre 37-38 mois (Idjwi, Kivu). Dans d'autres régions rurales plus touchées par l'économie monétaire et l'acculturation (Ngweshe), ils sont de 30-32 mois. En milieu urbain (Bukavu), les intervalles entre naissances sont de 25-26 mois. Ces variations d'intervalles n'engendrent pas de comportement conscient pour espacer les naissances : le délai moyen de conception ne varie guère selon les régions. Elles sont dues essentiellement à des différences de durée de l'aménorrhée post-partum qui passe de 19 mois en milieu rural à 9 mois en milieu urbain. Pour expliquer cette diminution, deux hypothèses sont discutées en relation avec la malnutrition, et la nature et l'intensité de l'allaitement; leurs conséquences sur l'évolution future de la population du Kivu sont brièvement envisagées. (AU)

141 **Caraël, M.** 1984. *A micro-approach to breastfeeding patterns in rural Kivu (Zaire).* IUSSP seminar on micro-approaches to demographic research, Australian National University, Canberra, AU, 3-7 Sep 1984. 14p. (tables, figs., 23 refs.)

§ To compare patterns of breastfeeding and amenorrhea durations in two Kivu subpopulations, a micro approach is used to detect recent changes in birth intervals and to explore methods of collecting suckling frequency data to compare it to probabilities of menstruation. A sample of 342 Shi and 166 Havu breastfeeding women were asked to provide information on menstrual status, frequency of feedings, supplementation, and general breastfeeding behaviour. From the Havu sample, a subsample of 42 breastfeeding women was observed from dawn to dusk and data on the duration of feeding, the factor that provoked it, the duration and number of supplementary feedings, and the length of physical relations between mother, child, and family were recorded. The discussion of preliminary results focuses on the existence of particular breastfeeding patterns depending on environmental factors and social behaviour, and on the difficulties of adequately measuring the frequency of breastfeeding. Results indicate that a specific pattern of breastfeeding among rural Shi women, that does not occur among Havu women, appears to explain to some extent, at the population level, the shorter length of birth interval and of the postpartum nonsusceptible period. (AU modified)

142 **Carme, B., Guillo du Bodan, H., Molez, J.F., Trape, J.F.** 1984. *Etude rétrospective sur la mortalité de l'enfant de moins de 5 ans dans une zone rurale de la région de Brazzaville (R.P. Congo). I. Taux et causes de mortalité.* Bulletin de la Société de Pathologie Exotique, 77(1), 104-114 En ISSN 0037-9085

§ Une étude rétrospective longitudinale sur une cohorte de 1003 enfants permis de préciser les taux et les causes de mortalité de 0 à 5 ans dans une zone d'holoendémicité palustre en République Populaire du Congo. Les taux de mortalité sont sensiblement inférieurs à ceux habituellement cités en Afrique noire : la mortalité infantile (0-1 an) la mortinatalité, la mortalité néonatale précoce et la mortalité entre 1 et 5 ans sont respectivement de 71, 13, 41 et 49 p. 1000. Sur 100 naissances vivantes, 93 enfants ont atteint l'âge de 1 an et 88 l'âge de 5 ans. La mortalité est dominée par les causes directement liées à la grossesse (prématurité, pathologie obstétricale) et par les causes infectieuses avec en premier lieu la rougeole. Par contre, dans cette étude, aucun décès ne parait devoir être attribué directement au paludisme. (PASCAL) •

143 **Carvalho, C.A.** 1983. *La mortalité infantile et de la petite enfance dans les pays africains lusophones : niveaux et tendances.* In Mortalité infantile et

juvénile dans le tiers monde/Programme de Recherche Coopérative Inter-Centre Projet no.1: Rapport Final. Comité international de coopération dans les recherches nationales en démographie (CICRED), Paris, FR. pp. 37-48 (tables, 5 réf.)

§ Après avoir discuté les sources des données et méthodologies et les résultats de son analyse, l'auteur est venu aux conclusions suivantes. L'état civil ne couvrant qu'une faible étendue du territoire de la plupart des pays d'Afrique d'expression portugaise, on a dû souvent utiliser comme source des données les recensements pour estimer, à partir de méthodes indirectes d'analyse, la mortalité aux jeunes âges. Or, ces méthodes ayant été élaborées à partir de constatations empiriques ou de simulations, les hypothèses qui sont inhérentes à leur emploi rendent parfois hasardeuse leur application. A la lumière de ses estimations, on peut conclure à l'existence d'une très forte mortalité aux jeunes âges dans les pays africains lusophones, particulièrement en Angola et en Guinée-Bissau, la situation de Saint Thomas et Prince et, dans une moindre mesure, du Cap-Vert, étant moins alarmante. (AU modifié)

144 **CEA (Commission économique pour l'Afrique),** 1982. *Séminaire national sur la population et le développement. Abidjan. CI. 13-18 Dec 1982.* Division de la Population, CEA, Addis Ababa, ET. (réf.) E/ECA/POP/12

§ Le but de ce séminaire national est d'encourager une approche intégrée de la planification du développement prenant en compte les divers facteurs de la population. Les thèmes discutés sont les suivants : bilan démographique de la Côte d'Ivoire; intégration des variables démographiques dans les plans de développement économique et social; l'expérience ivoirienne en matière d'intégration des variables démographiques dans les plans de développement économique et social; relation entre population et développement; une approche méthodologique pour l'Afrique; population et développement agricole; femmes, population et développement; population et éducation; migrations scolaires; santé maternelle périnatale, infantile et démographique; population et emploi; population, habitat et urbanisation. (AU modifié)

145 **Centre international de l'enfance,** 1984. *Evaluation permanente de l'état nutritionnel protéo-énergétique.* In L'enfant en milieu tropical. Centre international de l'enfance, Paris, FR. pp. 2-93 (tables, fig., réf.) ISSN 0013-7561

§ Fondé sur l'étude effectuée par le CEMUBAC (Scientific and Medical Centre of the Free University of Brussels for its Cooperation Activities), ce rapport décrit de façon détaillée l'approche utilisée pour l'évaluation de la malnutrition due au manque de protéines et de calories à Kivu, au Zaire. Le rapport comporte trois parties importantes, à savoir : la description de l'état nutritionnel d'un groupe de personnes, les facteurs personnels, familiaux et environnementaux qui jouent un rôle important dans l'état nutritionnel (protéines-énergie) de l'ensemble de la communauté, et l'analyse des facteurs qui influent sur l'état sanitaire et nutritionnel des populations. (SALUS traduit)

146 **Chabasse, D., Dumon, H., Tounkara, A., Maiga, A., Ranque, P.** 1980. *Indices paludométriques chez 938 enfants et adolescents en savane humide au sud du Mali.* Bulletin de la Société de Pathologie Exotique et de ses Filiales, 73(3), 254-258 (tables, 6 réf.) En

§ Les auteurs établissent les indices paludométriques chez 938 enfants et adolescents de la région de Kadiolo en savane humide au sud du Mali en fin de saison sèche (début mars). Ces résultats font apparaitre un indice global de 70,6 % dont 94,4 % pour *P. falciparum* et un indice gamétocytique de 9,96 %. Ces chiffres, trouvés à distance de la saison des pluies, laissent supposer que la transmission annuelle est continue avec une recrudescence en saison humide, expliquant en grande partie la mortalité infantile. La Nivaquinisation pourrait aisément protéger ces populations à risques. (AU)

147 **Chabasse, O., Roune, C., Rhaly, A.A., Maiga, D., Traore, M., Tounkara, A., Dumon, H., Ranque, P.** 1983. *Evaluation et l'état sanitaire des populations nomades et semi-nomades du Gourma-Mali : approche épidémiologique.* Médecine Tropicale, 43(2), 127-135 (tables, fig., 30 réf.) En

§ Les auteurs rapportent les principaux indices de morbidité, de mortalité infantile, de fécondité ainsi que les principales affections endémiques dépistées chez les populations nomades et semi-nomades du Gourma, relevées au cours d'une enquête épidémiologique à visée descriptive. Ce sont

les enfants, et parmi les ethnies étudiées les Tamachèques et les Maures, qui présentent les indices de morbidité générale les plus mauvais. Paludisme, brucellose, tréponématose (bejel) ont des taux d'incidence élevés. Les quelques cas de tuberculose décelés incitent à rechercher la véritable incidence de cette affection. La bilharziose urinaire existe à Gossi (mare pérenne); les helminthiases intestinales, les teignes, des hémoglobinopathies ne semblent pas poser de problèmes de santé publique dans la région. Si les ptérygions et les conjonctivites sont fréquents, le trachome est absent du Gourma. (AU)

148 **Chambers, R., Longhurst, R., Pacey, A.** 1981. *Seasonal dimensions to rural poverty.* Francis Pinter, London, GB. p. 259 (maps, tables, graphs, figs, 43 refs.) ISBN 0-86598-057-8

§ The purpose of this book is to raise awareness of seasonality and of seasonal linkages; to provide a mode of analysis that may serve as a basis for multidisciplinary research; and to suggest policy implications that arise from this approach. The seasonal mode of analysis is not seen as preempting explanations of root causes of poverty, but rather as a vehicle to give insight into how these causes operate. The major themes are the nature of climatic seasonality in the tropics; seasonal energy relationships and food; economic relationships and the seasonal use of labour; the seasonal ecology of disease; seasonal patterns in births and deaths; family health and seasonal welfare; and the social distribution of seasonal burdens. It is concluded that "seasonality presents contexts which bring poverty to periodic crises. It provides conditions that enable other forces which create and sustain poverty to act more powerfully." Further, the authors argue that the impact of seasonal stress varies according to socioeconomic status in the same environment. The policy implications of this mode of analysis are indicated. Separate entries in this bibliography appear under Cook and Dyson 1981; Palmer 1981; and Rowland et al. 1981. (F.M.)

149 **Chandiwana, S.K.** 1983. *Human bilharziasis in a peri-urban area in Zimbabwe with special reference to its relationship to malnutrition in school children.* Central African Journal of Medicine, 29(2), 23-26 (tables, 10 refs.) ISSN 0008-9176

§ The occurrence of bilharzia in Epworth, a periurban area on the outskirts of Harare is summarized. There are low to moderate prevalence levels of *S. haemotobium* and *S. mansoni*, with the former infection more prevalent in children and young adults and the latter in the adult population. *Bulinus (Physopsis) globosus* and *Biomphalaria pfeifferi* vector snails are well distributed in all the permanent natural water bodies in the area. The old villages generally have adequate safe water sources and latrines, but such facilities are not available or are inadequate in the new villages. These differences are reflected in differential bilharzia infection rates between residents of the two groups of villages. Preliminary evidence indicates that there could be a significant correlation between bilharziasis and malnutrition in school children. (AU modified)

150 **Chaventré, A.** 1983. *Evolution anthropo-biologique d'une population Touarègue : les Kel Kummer et leurs apparentés.* Institut national d'études démographiques travaux et documents, cahier no. 103, Presses Universitaires de France, Paris, FR. 334p. (tables, fig., cartes, 608 réf.) 2-7332-0103-4 ISSN 0071-8823

§ Basé sur une étude qui a durée plus de 15 années, l'auteur discute ses recherches entre les Kel Kummer. L'objectif de la recherche était d'analyser "l'aboutissement de l'évolution de ce groupe sous l'effet des multiples processus à l'oeuvre, sélection choix du conjoint, migrations, hasard de la transmission des gènes." La recherche représente un effort d'intégrer les sujets des sciences sociales et des sciences biologiques. Les chapitres adressent la géographie; moeurs et coutumes; religion; magie; médecine traditionnelle; les méthodologies; généalogie et listing des Iwellemmeddan Kel Kummer et apparentes; crédibilité des généalogies; généalogies et patrimoine génétique; étude démographique; le système HLA; étude hématologique; l'antigène Australia; anthropologie classique; et une étude de la vision colorée. (F.M.) *

151 **Chen, L.C., Chakraborty, J., Sardar, A.M., Yunus, M.** 1981. *Estimating and partitioning the mortality impact of several modern medical technologies in basic health services.* In Proceedings of the International Population Conference, Manila, PH, 1981, vol. 2. International Union for the Scientific Study of Population, Liège, BE. 113-140

(tables, figs., 25 refs.) Fr

§ The authors examine the impact on mortality of specific health technologies introduced over time in a large study population under longitudinal demographic surveillance. Data are for the Comilla district of Matlabthana, Bangladesh, for the period 1963 through 1979. The data made it possible to assess the mortality impact of individual health technologies and to analyze the interactions between specific interventions and demographic variables. Methodological lessons for the design and implementation of future health programs are considered. (Population Index)

152 **Cherian, A.** 1981. *Attitudes and practices of infant feeding in Zaria, Nigeria.* Ecology of Food and Nutrition, 11(2), 75-80 (tables, 12 refs.) ISSN 0367-0244

§ A study to understand attitudes and infant-feeding practices was done among 250 expectant mothers in an ante-natal clinic in Zaria, Nigeria. Most of the fathers earned poor wages. Illiteracy was high, being greater among the mothers than fathers. Family size was larger among the poorer families. Childhood mortality increased with family size. Of the mothers, 66% had used commercial milk formulas. Most mothers offered no reason for this, but other common explanations included insufficient breast milk and that the milk had been bought by the father. Baby foods were often purchased by the poorer income families. The period of breastfeeding and method of weaning varied with the mother's education. Nutritious foods like egg and meat were not commonly given to the children because of taboos and ignorance. Poor nutrition was prevalent in the poorer and larger families. (AU)

153 **Cherian, A., Duggan, M.B., Sterken, E.** 1983. *Anthropometric measurement of malnutrition in children in Zaria, Nigeria.* Annals of Tropical Paediatrics, 3, 143-151 (tables, figs., 26 refs.) ISSN 0272-4939

§ In a combined hospital and community study, anthropometric measurements were made on 2134 children under 3 years of age, of whom 1445 were underweight children attending a hospital nutrition clinic, 484 were unselected village children, and 205 were well nourished controls. Weight and length data were analyzed to determine the prevalence of different degrees of nutritional deficit in the three groups at different ages. Prevalence of nutritional deficit in the groups was estimated differently by the three anthropometric indicators, weight-for-age giving the highest estimate and identifying not only 89% of the malnourished but also 48% of village children as significantly underweight for age. Analysis of length measurements identified an increasing prevalence of stunting with advancing age in all groups and a significant peak prevalence of wasting in village children during the second year of life. The possible reasons for this nutritional crisis during the second year of life are discussed. (AU abbrev.)

154 **Cherian, A., Duggan, M.B., Sterken, E.** 1985. *The epidemiology of malnutrition in young children in Zaria, Nigeria.* Ecology of Food and Nutrition, 16(1), 1-12 (tables, map, 33 refs.) ISSN 0367-0244

§ A combined hospital and community study was made of childhood malnutrition in Zaria, northern Nigeria. Demographic, epidemiological, and clinical information was recorded on 1516 malnourished children, 462 unselected village children, 205 selected well nourished, and 467 outpatient controls. The data demonstrated an association between malnutrition and poverty, rurality, and common childhood infections. No influence of high fertility and of formula feeding on nutritional status was apparent. It is suggested that a coordinated locally planned study of the ecology of child health will facilitate planning of action against child poverty and malnutrition. (AU)

155 **Chevassus-Agnes, S., Ndiaye, A.M.** 1981. *Enquêtes de consommation alimentaire de l'ORANA de 1977 à 1979 : Méthodologie, résultats.* In Etat nutritionnel de la population rural du Sahel : rapport d'un groupe de travail, Paris (France) 28-29 avril 1980. Centre de recherches pour le développement international, Ottawa, CA. 57-66 (tables, carte, figs.) IDRC-160f ISBN 0-88936-284-X

§ Le but de cet exposé est double : discuter de la méthodologie des enquêtes de consommation alimentaire utilisée par l'ORANA (Organisme de recherches sur l'alimentation et la nutrition africaines faisant partie de l'Organisation de coordination et de coopération pour la lutte contre les grandes endémies); et donner rapidement les résultats de cinq enquêtes effectuées au Sénégal selon cette méthodologie. Les résultats présentés ici font apparaitre de grandes disparités régionales et montrent que dans le département de Kédougou et en Casamance l'apport calorique est plus faible qu'ailleurs. Les taux de satisfaction des apports recommandés ne représentent que des moyennes qui manquent les disparités entre familles. (AU abrégé)

156 **Chikanza, I.C., Paxton, D., Loewenson, R., Laing, R.** *Health status of farmworker communities in Zimbabwe.* Central African Journal of Medicine, 27(5), 88-91 (tables, figs., 11 refs.) ISSN 0008-9176

§ Health and nutrition status in six farmworker communities in Zimbabwe were assessed by means of standard interviews with community members regarding diet, income, living conditions, illness, death, immunization, etc., and anthropometric measurement of all children under 5. Undernutrition was found in 68.8% of the children. The survey results are discussed and some suggestions for improving the situation, beginning with a review of wages in light of a carefully researched poverty datum line, are put forward. Statistical data are included. (SALUS)

157 **Chojnacka, H., Adegbola, O.** 1980. *Morbidity-mortality in an urban setting: the case of Lagos.* 52p. (tables, 20 refs.) UNFPA project no. NIR/74/PO3

§ The purpose of this study was to analyze the causes and differentials of morbidity and mortality in an urban area, Lagos. Using data obtained from hospital records and interviews, the specific objectives were to identify the frequency of diseases by age, sex, residence, and trends; the cause-effect relationship between major socioeconomic and environmental variables and morbidity; the interrelationships between fertility, child mortality and socioeconomic and environmental factors. Findings indicate a decrease in the proportion of deaths among children under 5 years and of infants, attributable largely to a decrease in the frequency of infectious and parasitic diseases in the 1970s. However the proportion of deaths associated with nutritional diseases and perinatal and birth complications has increased. There is higher mortality among boys than girls in infancy. The majority of leading diseases and causes of death among children are "deeply embedded in the biological, cultural, and socioeconomic milieu of a given environment." Thus policies which aim to address this situation must reflect the complex processes in operation. (F.M.)

158 **Chojnacka, H., Olusanya, P.O., Ojo, F.** 1981. *Population and economic development in Nigeria in the nineteen eighties.* Proceedings of a National Workshop held at the University of Lagos, Lagos, NG, 12-14 Sep 1979. Department of Technical Cooperation for Development, United Nations, New York, US. 254p. (tables, map, refs.) TCD/SEM.81/2

§ The purpose of the workshop was to generate ideas that would lead to the formulation of policy with respect to the relationship between demographic and economic processes, in addition to identifying research priorities in this field. The papers in this volume address population trends and estimates, socioeconomic implications of fertility and mortality, socioeconomic aspects of migration, and population policies and programs. (F.M.)

159 **Chojnacka, H., Adegbola, O.** 1984. *The determinants of infant and child morbidity in Lagos, Nigeria.* Social Science and Medicine, 19(8), 799-810 (tables, 12 refs.) ISSN 0277-9536

§ The purpose of this study is to identify the relationship between infant and child morbidity and environmental and socioeconomic factors. Medical data and data on the demographic, socioeconomic, and environmental variables were collected in interviews conducted in 1978 and from past records of a Lagos hospital. In each case, the sample size represents 10% of the patients attending the hospital annually. Analysis of the structure of real morbidity among children in Lagos, Nigeria, reveals that the leading diseases were of hygienic, nutritional, and perinatal origin. These diseases were highly concentrated in infancy and early childhood; for the former, the concentration was greater among boys than girls. During the 1970s, a decline is noticed in the frequency of infective and parasitic diseases, particularly among male infants. Simultaneously, a slightly rising trend of perinatal diseases and birth complications offset, to some extent, the effect of this decline. The rising trend of perinatal diseases should be seen in conjunction with a likely increase in gravidity of women and the resultant increase of pregnancies and birth complications, which affected the health of the mother as well as that of the child. The findings seem to suggest that, although both medical and nonmedical factors contributed to the change in morbidity pattern in 1968-78, the role of socioeconomic factors was significant. The implication is that without socioeconomic epidemiology, biomedical epidemiology could make a limited contribution to the reduction of morbidity. (AU modified)

160 **Choolun, R.** 1985. *Infant mortality and socio-economic development in Mauritius.* Journal of Tropical Pediatrics, 31, 174-176 (tables, 7 refs.)

§ On the premise that the relatively high rate of infant mortality (32.4 per 1000 in 1980) can be reduced only when a medical intervention program is developed in conjunction with better social and economic conditions, the author discusses causes of infant mortality. The relationships between infant mortality, poverty, and socioeconomic development, including the role played by breastfeeding, are briefly examined. (F.M.)

161 **Chossudovsky, M.** 1983. *Underdevelopment and the political economy of malnutrition and ill health.* International Journal of Health Services, 13(1), 69-87 (tables, 20 refs.)

§ This article applies Marx's abstract subdivision of social consumption to the prevailing patterns of capital accumulation in the Third World. Built-in scarcities of necessary consumer goods, alongside patterns of overconsumption and social waste by the upper-income groups, are conducive to conditions of mass poverty, malnutrition, and disease that coexist with small pockets of social privilege and affluence. Malnutrition and ill health must be understood and analyzed in relation to the dual and divided structure of social consumption: necessities of life as opposed to luxury and semiluxury goods. The relationship between capital and accumulation, the distribution of money income, and patterns of malnutrition and ill health are analyzed. It is shown that patterns of malnutrition and ill health are socially differentiated, and the core disease pattern in Third World social formations is discussed in relation to the material and social conditions of life which generate ill health and which underlie particular patterns of peripheral capital accumulation. The study focuses on empirical procedures for analyzing the relationship between levels of money income and levels of calorie and protein intake. An appendix outlines a methodology for estimating undernourishment in urban areas from household budget surveys. (AU)

162 **Cochrane, S.H., O'Hara, D.J., Leslie, J.** 1980. *The effects of education on health.* World Bank Staff working paper, no.405, 95p. (tables, figs., 26 refs.)

§ This paper investigates, from three overlapping perspectives, the effects of education on health. The determinants of mortality are receiving increasing scrutiny because the rate of mortality reduction in the developing world appears to have slowed at levels of life expectancy below those thought attainable only a few years ago. The first perspective is a broad assessment of the socioeconomic determinants of mortality on a cross-national basis; using aggregate data, this paper contains a review and a reanalysis of the large body of literature that has accumulated on international differences in mortality and life expectancy. The second perspective sharpens the focus by concentrating on the relationship between education and mortality because the cross-national evidence suggests that education, or its proxy literacy, is the most important variable involved. A theoretical model of the relationship between parental education and child health is developed and used to describe how aggregate and individual data may give different estimates on the relationship. The third perspective reviews and reanalyzes the evidence at the subnational level. Individual evidence is reviewed on the relationship between parental education and both child nutrition and child mortality. This evidence is then compared with aggregate data to test implications of the model. (AU)

163 **Cochrane, S.H., Leslie, J., O'Hara, D.J.** 1982. *Parental education and child health: intracountry evidence.* Health Policy and Education, 2(3-4), 213-250 (tables, 39 refs.) ISSN 0165-2281

§ This paper examines a wide range of evidence on the relationship between parental education and child health. Ideally, measures of child nutritional status, morbidity and mortality would have been included, but very few studies on morbidity were found which included education. The data reviewed here indicate that maternal education is closely related to child health measured either by nutritional status or by infant and child mortality. The effect of father's education on infant and child mortality appears to be about half that of mother's education. The exact mechanisms through which education acts to affect child health are unclear. Better nutrition among the children of the more educated has been well documented here, but it is unclear to what extent these effects result from improved knowledge and to what extent from higher income. The analysis does suggest that income differences cannot explain all the effect or perhaps even as much as half. (AU)

164 **Cochrane, S.H., Zachariah, K.C.** 1983. *Infant and child mortality as a determinant of fertility.* World Bank Staff working paper, no.556, International Bank for Reconstruction and Development, Washington, US. 31p. (tables, 22 refs.) ISBN 0-8213-0147-0

§ The effect of infant and child mortality on fertility is estimated for 25 Third World countries using World Fertility Survey data. Two methods are followed: estimating the effect of an infant or child death on birth interval; and measuring the number of subsequent births a couple has depending on the survival or death of the first few births, thereby taking into account both biological and behavioural effects of mortality. The authors consider that the effects they find are larger on average than those reported in earlier studies but far smaller than would be necessary for mortality declines to be fully compensated by averted births. Comparing the cost of averting a birth through a family planning program and the cost of averting a birth indirectly by preventing an infant death, the authors conclude that, of the 16 countries studied, only in Kenya was mortality reduction more "cost effective" for reducing fertility than was family planning. (AU modified)

165 **Cole, T.J., Parkin, J.M.** 1977. *Infection and its effect on the growth of young children: a comparison of The Gambia and Uganda.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 71(3), 196-198 (tables, 5 refs.) ISSN 0035-9203

§ Longitudinal studies of 152 children from Keneba, Gambia, and 45 from Namulonge, Uganda, investigating the relationship between growth and different types of infection in the two areas are reported and their relevance to the patterns of malnutrition in Africa are discussed. The relative ineffectiveness of curative medicine in the real health problems of rural Africa and the need for prevention are stressed. (AU)

166 **Cole, T.J.** 1979. *Method for assessing age-standardized weight-for-height in children seen cross-sectionally.* Annals of Human Biology, 6(3), 249-268 (figs., tables, 23 refs.) Fr, De

§ Weight-for-height standards in children are usually constructed on the basis that the expected weight for a given height does not depend on age, an assumption that is unjustified. This paper investigates regression standards of age-standardized weight for age-standardized height, the standardization being achieved by expressing weight and height at fractions of the 50th centile for age from a suitable growth standard. The precise choice of standard is not critical. Data on 4631 children from Montserrat, Gambia, Uganda, U.K., and USA are used to demonstrate the method. (AU modified)

167 **Cole-King, S.M.** 1975. *Under-fives clinic in Malawi. The development of a national programme.* Journal of Tropical Paediatrics and Environmental Child Health, 21, 183-191 (tables, figs., 24 refs.) ISSN 0300-9920

§ This paper describes the development of a national network of under-fives clinics in Malawi. The number of clinics rose from 73 poorly attended welfare clinics in 1968 to 362 under-fives clinics in 1972, reaching 40-50% of the total under-five population. The effectiveness of the program after 3 years is assessed. The proportion of attendances classified as underweight fell from 37% to 29%, while the number of children immunized increased dramatically. The results illustrate the effectiveness of a low-cost auxiliary based service. (AU modified)

168 **Cole-King, S.M., Gordon, G., Lovel, H., White, A., Feachem, R.G.** 1981. *Organising for health.* Development Research Digest, no.5, 110p.

§ This publication includes abstracts of dissertations written for the MSc in mother and child health at the Institute of Child Health, University of London, as well as other unpublished material and sections from books and articles. It is divided into three main parts: ideas and experience of primary care; health workers; health and other sectors. With reference to Africa, it includes chapters on national decision-making for primary health care; an evaluation of primary health care in Ghana; a review of ideas on community participation and village health workers; community participation in appropriate water supply and sanitation technologies; the expanded program of immunization in Mozambique; the functioning of cold chain and immunization equipment in Mozambique; medical assistants of Uganda; a village health worker program in Tanzania; cropping patterns, nutrition, and child care in a Nigerian village; and the hungry season in the savannah of West Africa. (CAB Abstracts abbrev.) *

169 **Commey, J.O.O., Richardson, J.E.** 1984. *Measles in Ghana - 1973-1982.* Annals of Tropical Paediatrics, 4(3), 189-194 (tables, figs., 20 refs.) ISSN 0272-4936

§ Children with measles constituted 8.8% of all admissions to the pediatric medical service of the Korle Bu Teaching Hospital, Accra, in 1973-82. Measles remain endemic in urban Accra as in the towns of other developing nations. The peak of admissions occurred in the age range 7-12 months. Complications were frequent, with a high mortality (16.86%). Bronchopneumonia, the commonest complication (63.9%), was also the commonest cause of death in 51.5% of cases. Comparative national case-mortality rates were, however, surprisingly low and should be accepted with caution. There is an urgent need for intensification of immunization efforts through amalgamation of the preventive and curative services of Ghana, especially for children attending health centres for medical care. Vaccination should be administered before the peak age of admission, preferably at 6 months, with a second dose administered as soon after 1 year of age as possible. (AU)

170 **Condé, J., Paraiso, M.J., Ayasson, V.K.** 1979. *The integrated approach to rural development, health and population.* Development Centre of the Organisation for Economic Cooperation and Development, Paris, FR. 159p. (tables, 121 refs.) ISBN 92-64-11944-2

§ Against a background discussion of the integrated approach to rural development, ways of implementing the concept are examined. The particular concern is to integrate the economic aspects of rural development (production, productivity, land base, infrastructure) with the human aspect (health, mortality, education, training, migration). Health policies in Third World countries are assessed and issues with respect to the integration of health policies with rural development are raised. Examples of local, regional, and national (e.g. Botswana, Tanzania) integrated rural development programs are discussed in terms of problems of implementation and administration. The impact of integrated programs on health status, standard of living, and migration are evaluated. (F.M.)

171 **Condé, J., Fleury-Brousse, M., Waltisperger, D.** 1980. *La mortalité dans les pays en développement/Mortality in developing countries. Tomes I-IV.* Centre de Développement de l'Organisation de Coopération et de Développement Economiques, Paris, FR. I - 381 p., II - 260 p., III - 321 p., IV - 250 p. (tables)

§ Reconnaissant le fait que les tables de mortalité actuellement en usage ne répondent pas aux besoins des chercheurs étudiant la mortalité dans les pays en développement, le Centre de développement de l'OCDE a mis sur pied un projet qui doit résoudre le problème. Les volumes I et II contiennent les données de base à partir desquelles peuvent être calculés les indices de mortalité. Le volume I présente des données sur la composition de la population, et le volume II, des données sur les décès, les taux et les tables de mortalité. Le volume III offre une évaluation des données, la section I portant sur la régularité de la localisation du peuplement, et la section II présentant des renseignements sur les taux de mortalité. Le volume IV présente les taux comparatifs de mortalité. (F.M. traduit)

172 **Condé, J.** 1985. *Evaluation de l'impact démographique et de santé de projets de développement.* Séminaire méthodologique sur les interrelations population, santé et développement, Bamako, ML, Feb.1985. 35p. (20 réf.)

§ Etant donné que la majorité de la population africaine est rurale, l'auteur s'intéresse aux relations qui existent entre les changements socio-économiques, la santé et d'autres variables démographiques. La première partie de l'étude retrace ces liens dans le contexte de projets de développement ruraux intégrés. Les parties II et III examinent les méthodes d'évaluation du programme de développement et les difficultés rencontrées lorsqu'il s'agit de déterminer les coûts et les avantages relatifs dans une évaluation non plus des objectifs purement économiques, mais des objectifs sociaux. Parmi les critères d'évaluation qui font l'objet d'un examen, il y a l'espérance de vie, la mortalité infantile, le taux de migration externe chez les ruraux, l'autosuffisance en matière alimentaire, l'alphabétisation, la participation relative des femmes et des hommes dans les activités de développement. La dernière section identifie des critères de sélection des projets. L'auteur termine en faisant remarquer que, si l'on veut rompre le cercle vicieux de la pauvreté, deux

facteurs sont importants : la volonté politique et la participation populaire. (F.M. traduit)

173 **Cornu, A., Delpeuch, F., Chevalier, P.** 1980. *Etat nutritionnel et croissance au cours des deux premières années de la vie chez des enfants de Yaoundé.* Archives Françaises de Pédiatrie, 37(2), 125-129 (fig., tables, 21 réf.) En

§ Afin de préciser la signification de la malnutrition modérée fréquemment observée entre 18 et 24 mois, nous avons effectué une étude longitudinale jusqu'à 2 ans chez 63 enfants de Yaoundé. Les enfants ont été divisés en deux groupes en fonction de leurs mesures anthropométriques à 2 ans : groupe I, enfants témoins, et groupe II, enfants modérément malnutris. Les enfants du groupe II possèdent : un poids de naissance inférieur à celui du groupe I ; un gain de poids moyen entre 0 et 8 mois tout juste égal au standard et inférieur à celui du groupe I ; un gain de poids moyen entre 8 et 23 mois très inférieur au standard et plus faible que celui du groupe I. Les critères pondéraux à 23 mois sont liés au poids de naissance et toutes les mesures anthropométriques sont plus liées au gain de poids entre 0 et 8 mois qu'au gain de poids entre 8 et 23 mois. Aucune variable biochimique ne diffère significativement entre les deux groupes. Il existe une liaison significative de la transferrine, du C3 et de l'index d'hydroxy-proline avec le gain de poids entre 8 et 23 mois. Il semble que le poids à la naissance et le gain de poids pendant les premiers mois de la vie pourraient être utilisés comme indicateurs d'un risque de malnutrition future. (AU)

174 **Courbage, Y., Fargues, P.** 1979. *A method for deriving mortality estimates from incomplete vital statistics.* Population Studies, 33(1), 165-180 (tables, figs., 8 refs.) ISSN 0032-4728

§ For use in a situation where vital registration records are incomplete, the author presents a method for deriving mortality estimates and applies in Madagascar. The author argues that a knowledge of the distribution of deaths by age, and of a family of life tables to which this distribution could be related, makes it possible to deduce the true level of mortality (measured by the death rate above a given age) from the relation between age structure of deaths and level of mortality. This true level is then compared with registered mortality, thus making possible an estimate of the extent of underregistration of deaths, and a later adjustment of observed age-specific death rates, as the overall underregistration rate applies to each individual age group. (AU modified)

175 **Courbage, Y.** 1980. *Enquête sur la mortalité infantile et juvénile à Yaoundé : présentation méthodologique.* In La mortalité des enfants dans le tiers-monde : orientations et méthodes de recherche. Ordina Editions, Liège, BE. 107-130 (tables) ISBN 2-87040-017-9

§ L'auteur discute la méthode générale (des passages répétés, la population à enquêter, l'échantillonnage) et l'organisation matérielle de la collecte de l'enquête sur la mortalité infantile et juvénile de IFORD à Yaoundé. L'objectif de cette enquête était de mesurer le niveau de la mortalité durant les deux premières années de la vie et d'en étudier les aspects différentiels (selon le niveau d'instruction des parents de l'enfant, leur activité économique, l'état sanitaire, l'habitat, la nutrition de l'enfant) ainsi que ses relations avec d'autres phénomènes démographiques (fécondité, migration). (AU modifié)

176 **Cresta, M., Tonelli, V., Vecchi, F.** 1982. *Croissance et type d'hémoglobine chez les enfants du Benin.* Bulletins et Mémoires de la Société d'Anthropologie, 9(8), 247-255 (tables, fig. 12 réf.) En

§ Sont rapportés les résultats pour le poids, la taille, le périmètre thoracique et les types d'hémoglobine de 1265 enfants de 5 à 15 ans du milieu urbain du nord du Bénin et de 2175 enfants du même âge de la ville de Portonovo (sud du Bénin). Les données anthropométriques indiquent que dans le nord il y a un pourcentage plus élevé d'enfants exposés au risque de malnutrition que dans le sud. La puberté semble être la période la plus critique. Les régressions linéaires suivantes ont été calculées dans les deux zones pour les hémoglobines (Hb) A, AS et AC : taille/âge; . log poids/âge; pér.thoracique/âge; log poids/taille; pér.thoracique/taille. Leur comparaison montre que dans le sud, les filles avec Hb AC auraient des menstruations plus fortes que celles avec Hb A et Hb AS. Le même avantage pour le poids se présente pour les filles du nord avec Hb AC. Aucune différence n'est mise en évidence pour les enfants avec Hb AS par rapport à ceux avec Hb A. Les auteurs suggèrent l'hypothèse que les menstruations plus fortes des filles du sud, avec Hb AC à l'âge de la puberté,

pourraient indiquer une maturation sexuelle plus précoce d'ou la plus grande susceptibilité de la part de ces femmes à avoir un plus grand nombre d'enfants. (AU)

177 **Crook, N., Dyson, T.** 1981. *Data on seasonality of births and deaths.* In Chambers, R., Longhurst, R., Pacey, A., Seasonal dimensions to rural poverty. Francis Pinter, London, GB. 141-149 (figs., tables, refs.) ISBN 0-86598-057-8

§ This chapter reviews literature on demographic seasonality and suggests that the seasonality of births and deaths is a worldwide phenomenon and that within any one country there is significant consistency in this respect over time. The data available substantiate this, particularly for the Caribbean, Latin America, Asia, and North Africa. There is a lack of data for Africa, although evidence from Senegal indicates that infant deaths peak shortly after the maximum rains. This work shows the analytical potential of defining seasonal patterns of fertility and mortality in determining the relative explanatory significance of variables and in bringing attention to frequently neglected variables; the effect of timing of surveys and data collection (particularly where based on retrospective questioning) on results; the significance of the phenomenon of demographic seasonality for health care planners. (F.M.)

178 **Cuisinier, J.C.** 1983. *Anémies nutritionnelles de l'enfant.* Soins Pathologie Tropicale, 39, 27-32 (tables, fig., 4 réf.)

§ L'auteur examine le rôle de l'anémie dans la mortalité infantile et juvénile et la corrélation entre l'anémie et les différentes carences nutritives. (F.M. traduit)

179 **Cunningham, N.** 1978. *Under fives clinic: what difference does it make?* Journal of Tropical Pediatrics and Environmental Child Health, 24(6), 239-334 (tables, figs., ill., 142 refs.) ISSN 0300-9920

§ This 1966-67 in-depth survey evaluates the impact of an under-fives clinic on the health of village children in Imesi Ile, Nigeria. Separate chapters treat materials and methods, population data, child health data, environmental factors, the clinic itself, the clinic's achievements, and a number of other factors such as personnel, costs, and components of care. Statistical data are included in 107 tables and appendices contain guidelines and lists of personnel and equipment. The results indicate that the clinic was instrumental in improving child health in Imesi. (SALUS)

180 **Dakuyo, N.M.** 1986. *Enquête mortalité infantile dans le Sahel (EMIS-Burkina Faso).* In Les actes du Séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 1-pp. 14 (tables) IDRC-MR125f, INSAH no. 5

§ Ce document porte essentiellement sur le bilan encore partiel de la collecte afin de rendre compte de l'état d'avancement du travail sur le terrain. Le projet couvre quatre centres urbains : Bobo-Dioulasso, Bangora, Koudougou et Ouahigouya. L'échantillon est composé d'enfants nés dans les maternités ainsi que ceux nés à domicile au cours de la période mai 1981 et avril 1984. L'auteur discute les problèmes techniques rencontrés à chaque niveau de l'enquête qui est composée de sept passages. (AU modifié)

181 **Dawodu, A.H., Effiong, C.E.** 1983. *Neonatal morbidity and mortality among Nigerian infants in a special-care baby unit.* East African Medical Journal, 60(1), 39-46 (tables, 26 refs.)

§ Morbidity and mortality patterns in 223 low birth weight (LBW) and 104 other sick neonates admitted into the special care baby unit, University College Hospital were studied prospectively over a 12-month period. The overall mortality for the 327 study patients was 21%. Mortality in full-term infants of 15% was attributable principally to perinatal asphyxia. Mortality of 75% and 87% for infants weighing 100 g or less and gestation of less than 28 weeks, respectively, compared favourably with reports from developed countries. Mortality rate varied inversely with birth weight and gestational age and was least in 1500-2000 g (7%) and 34-36 weeks gestation (9%) groups of infants. The authors conclude that neonatal morbidity and mortality can be significantly reduced by promoting higher birth weight; providing effective antenatal care and delivery services to all pregnant women; and emphasizing early detection and treatment of problems. (AU modified)

182 **de Haas, P.W., Masurel, N., Anker, W.J.J.** 1983. *Measles in Tanzania: antibody response in children after vaccination and antibody state of mothers and newborn.* Transactions of the Royal Society of

Tropical Medicine and Hygiene, 77(2), 267-270 (tables, 11 refs.) ISSN 0035-9203

§ The purpose of this research was to study the antibody response in two groups of children (total 82) to attenuated live measles vaccines; and the antibody levels of 234 mothers and their newborns. Findings indicated, inter alia, that virtually all newborn babies had a sufficiently high HI antibody titre to protect against measles. After 7-8 months, 88% of the children had lost these maternally derived antibodies. Further, it was concluded that a high frequency of protection in children over 8 months was achieved through active immunization with measles vaccine. The authors recommend an immunization program for all children over 8 months. (F.M.)

183 **de Lauture, H., Wone, I., de Araujo, G., Coste, M.** 1982. *Première évaluation d'une action de soins de santé primaires au Sénégal oriental.* Dakar Medical, 27(1), 29-48 (tables, carte, fig., 4 réf.) En

§ Les résultats de l'évaluation d'une campagne de soins de santé primaires, menée entre avril 1976 et juin 1978, sont examinés pour déterminer ses effets médico-sanitaires, psycho-sociologiques et financiers sur une population rurale de l'est du Sénégal. La conclusion : la campagne a généralement donné des résultats positifs. Les systèmes d'approvisionnement en eau et d'hygiène ont été améliorés; le taux de mortalité est passé de 200 à 40 p. 1000; l'incidence de la malaria et de la malnutrition chez les enfants a diminué; des programmes d'éducation touchant la malaria et la nutrition ont été assurés. Cependant, les répercussions ont varié d'un village à l'autre. (F.M. traduit)

184 **de Lestrange, M.T., Passot-Guevara, B.** 1981. *De la grossesse au sevrage chez les Bassari, les Peul et les Boïn de Salemata (Sénégal oriental).* Journal de la Société des Africanistes, 51(1-2), 23-41 (tables, 15 réf.) En

§ La comparaison de Bassari (cultivateurs animistes) d'une part, Peul et Boïn (pasteurs et cultivateurs musulmans) d'autre part, a mis en évidence un certain nombre de comportements semblables mais aussi certaines différences. La fréquence de la géophagie au cours de la grossesse est importante (1/3 des femmes interrogées) et identique dans les deux groupes. Par contre, la très grande majorité des femmes bassari accouchent seules, ce qui n'est pas le cas chez les femmes peul et boïn. Par ailleurs dans le groupe musulman, les hommes ne prennent aucune part active à cet événement. Au contraire, chez les bassari, c'est très souvent un homme (la plupart du temps le mari de l'accouchée) qui coupe la ligature et le cordon ombilical (40 % des cas) et plus souvent encore enterre le placenta (60 % des cas). En ce qui concerne l'alimentation de l'enfant le lait de vache, totalement absent du régime de l'enfant bassari, est au contraire donné chaque jour aux bébés peul et boïn depuis leur naissance jusqu'après le sevrage. L'alimentation purement lactée semble plus contre chez les basarri. Dans les deux groupes, l'allaitement maternel est fait à la demande de l'enfant et dure environ deux ans; le sevrage est brutal mais intervient alors que les enfant mangent de tout depuis plusieurs mois. La mortalité infantile et juvénile, plus faible dans le groupe des pasteurs, pourrait être liée à la différence d'alimentation du jeune enfant. (AU)

185 **de Zoysa, I., Carson, D., Feachem, R.G., Kirkwood, B.R., Lindsay-Smith, E., Loewenson, R.** 1984. *Perceptions of childhood diarrhoea and its treatment in rural Zimbabwe.* Social Science and Medicine, 19(7), 727-734 (tables, 36 refs.) ISSN 0277-9536

§ During a study on the acceptability and feasibility of home-based oral rehydration therapy in rural Zimbabwe, information was collected on attitudes and beliefs about diarrhea and on action taken in response to an episode of diarrhea in a child. Data were collected from household-based group discussions, a questionnaire survey, and informal interviews with key informants from 367 households in four diverse rural areas, two in Mashonaland and two in Matabeleland. Diarrhea was found to be a perceived threat and its described causes were assigned to two broad classes: physical causes, such as a polluted environment, diet, and teething; and social and spiritual causes, such as those associated with a depressed fontanelle. Of the described episodes of diarrhea, 76% were attributed to physical causes, 15% to social and spiritual causes, and 8% to a combination of these. Reported utilization of the formal health services was unexpectedly high. In contrast, a low demand for indigenous herbalists was recorded. Home management was common. Variables that were examined to assess their influence on health-seeking behaviour included perceived cause and severity of the illness, sociodemographic characteristics of the respondent or child, and accessibility of health services. Only perceived cause was a significant predictor for the utilization of the formal health services. Health care activities should build upon local perceptions about illness and its control. New practices, such as oral rehydration therapy, may be acceptable if they are congruous with underlying beliefs and if they are promoted by health workers who are sensitive to the needs and priorities of the communities in which they operate. (AU modified)

186 **Depoux, L.** 1980. *Mortalité infantile et juvénile chez les Bwa-Bwa du Haute-Volta : quelques résultats d'une enquête ayant porté sur neuf villages de l'ouest voltaique.* In Institut de Formation et de Recherche Démographique, Actes du colloque de démographie d'Abidjan. pp. 66-75 (4 réf.)

§ Le quotient de la mortalité infantile dans les neuf villages bwa-bwa en 1973-77 avait baissé par rapport à la période 1966-71. Les causes principales de décès d'enfants sont les affections intestinales (20 %), le tétanos (18 %) le paludisme (12 %), les maladies de l'appareil respiratoire et la rougeole. La malnutrition et le kwashiorkor entrent pour une part considérable de la mortalité des 1-4 ans. La carence des protéines et des vitamines qui aggravent les infections est l'effet du régime alimentaire bwa-bwa et l'état de l'eau destiné à la consommation. (PIDSA abrégé) *

187 **deVries, M.W.** 1984. *Temperament and infant mortality among the Masai of East Africa.* American Journal of Psychiatry, 141(10), 1189-1194 (tables, 42 refs.)

§ On the basis of Western studies suggesting that infants with difficult temperaments are at greater risk for behavioural and physical disorders, the author postulated that Masai infants with difficult temperaments would be at greater risk in the harsh environment created by the sub-Saharan drought in 1974, which disrupted the life of the Masai people of East Africa and resulted in increased infant mortality. Two groups of infants with difficult and easy temperaments were defined and followed. Contrary to expectations, mortality was greater for the infants with easy temperaments. The infant's contribution, child-rearing orientation, and feeding practices were factors influencing survival. (AU)

188 **Di Domenico, C.M., Asuni, J.B.** 1979. *Breastfeeding practices among urban women in Ibadan, Nigeria.* In Raphael, D., Breastfeeding and food policy in a hungry world. Academic Press, New York, US. 51-57 (tables, refs.) ISBN 0-12-580950-6

§ On the basis of data collected by questionnaire and in-depth interviews of women in Ibadan, the authors examine women's attitudes to breastfeeding. The social correlates of breastfeeding, including the work environment, weaning practices, and cultural variables, are considered in terms of the main population groups. (F.M.)

189 **Dicko, S.F.** 1986. *Rapport de l'enquête sur la mortalité infantile à Bamako.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 15-29 (tables) IDRC-MR125f, INSAH no. 5

§ L'objet de ce rapport est de présenter l'état d'avancement du travail sur le terrain de chaque groupe, d'enquêteurs, et de dégager les différents problèmes qui pourront éventuellement avoir une incidence directe, sur la méthodologie d'analyse des données. L'enquête effectuée dans le district de Bamako est composée de sept passages. (AU modifié)

190 **Diesfeld, H.J.** 1982. *Health research in developing countries.* Medizin in Entwickslandern series, vol. 11, Peter D. Lang, Frankfurt am Main, DE. (tables, refs.)

§ This monograph consists of the 15 papers presented at a joint meeting of tropical medical societies from Belgium, Germany, and the Netherlands, which examined the human issues and sociocultural factors that limit the application of medical knowledge. A section on health services research looks at health care utilization by Ecuador's indigenous people, costs of comprehensive primary care in Zaire's Kasongo Project, preference and rejection in the choice of health care providers by Kenya's Akamba tribe, and continuous training of medical auxiliaries by supervision. The part on medical anthropology discusses medical pluralism and doctor-patient relationships in India, developments in traditional Indian nosology, and Naeng, a Korean folk illness. Topics in the third section include nutrition of settlers in Thailand, child nutritional status in central Africa, food consumption during pregnancy in Kenya, and interrelationships of anthropometric parameters. Nonparasitic infectious diseases

are the subject of the final section, which looks at enterotoxic bacteria induced diarrheal diseases, ebola virus, and lassa virus in Liberia. Numerous statistical tables, graphs, and bibliographies are included. (SALUS)

191 Dillon, J.C., Lajoie, N. 1981. *Rapport sur l'évaluation de la situation nutritionnelle des populations rurales du Sahel à la lumière des enquêtes effectuées entre 1960 et 1979.* In Etat nutritionnel de la population rural du Sahel : rapport d'un groupe de travail, Paris (France) 28-29 avril 1980. Centre de recherches pour le développement international, Ottawa, CA. 67-88 (tables, 101 réf.) IDRC-160f

§ L'objectif de ce travail de recherche bibliographique est de relever les caractéristiques de l'état nutritionnel des populations rurales du Sahel au cours des 20 dernières années. Pour ce faire, les auteurs ont dépouillé les résultats de 89 enquêtes effectuées dans cette région depuis 1947. (AU)

192 Dillon, J.C., Macnell, J., Senghor, G. 1982. *Intolérance au lait en poudre chez l'enfant sénégalais présentant une malabsorption du lactose.* Revue canadienne de santé publique, 73(5), 341-344 (tables, fig., 21 réf.) En ISSN 0008-4263

§ Quelques enfants (170) âgés de 1 à 14 ans et hospitalisés à Dakar ont été soumis à un test de tolérance au lactose. Ils se classaient en deux groupes, selon qu'ils étaient en bon état de nutrition (99) ou atteints de malnutrition (73). Dans le groupe d'âge de 1 à 3 ans, la proportion de malabsorbeurs est significativement plus élevée chez les enfants atteints de malnutrition (60,3 %) que chez les enfants en bon état nutritionnel (35 %). Le pourcentage de malabsorbeurs dans la population infantile augmente avec l'âge. Chez les enfants normaux, il est de 50 % environ à l'âge de 5 ans et atteint 70 % vers l'âge de 10 ans. Chez les enfants malnutris, par contre, la fréquence de la malabsorption est plus élevée; elle atteint 60 % des cas dès la fin de la première année. Bien qu'il soit génétiquement intolérant au lactose, l'enfant africain ne présente aucun phénomène d'intolérance intestinale sérieux lors de l'ingestion de lait en poudre sur la base de 3 g de protéines de lait par kg de poids. Par contre, chez l'enfant atteint de malnutrition, dans un cas sur cinq environ, le lait en poudre aggrave la diarrhée. Dans ce cas, il semble donc préférable d'utiliser des laits à teneur réduite en lactose. (AU)

193 Dittgen, A. 1979. *Aspects de la mortalité des jeunes enfants à Abidjan en 1975 à partir des décès déclarés à l'état civil.* Cahiers ivoiriens de recherches économiques et sociales, 22, 69-104 (tables, fig., 11 réf.)

§ Les décès d'enfants à Abidjan sont loin d'être tous déclarés l'état civil. L'analyse des données recueillies fournit cependant des informations extrêmement intéressantes concernant la structure de cette mortalité : structure par âge, par sexe, par saison. Le minimum de mortalité se suite au second semestre (petite saison sèche - petite saison des pluies) et son évolution par âge est alors la suivante : baisse rapide et régulière de la naissance jusque vers 6 mois, remontée à partir de cet âge, avec deux pointes : l'une vers 12-15 mois, l'autre vers 21 mois, puis reprise normale de la baisse au-delà du deuxième anniversaire. Durant le premier trimestre, c'est-à-dire durant la grande saison sèche, vient se greffer sur cette évolution "normale" un nombre considérable de décès entre 6 et 16 mois dus à la rougeole, maladie qui constitue la principale cause de variation de la mortalité au cours de l'année. Quant à la variation selon le sexe, elle est caractérisée par une surmortalité masculine très importante qui est amplifiée à chaque fois que le risque de décès lui-même augmente : à la naissance, aux âges cruciaux dans l'alimentation de l'enfant, durant la grande saison sèche. (CICRED-PIDSA)

194 Dittgen, A. 1979. *L'état civil comme source de données du mouvement naturel de la population étude des naissances et des décès déclarés dans la commune d'Abidjan en 1975.* Cahiers ivoiriens de recherches économiques et sociales, 22, 39-68 (tables, fig., 19 réf.)

§ L'auteur évalue l'utilité des données de l'Etat civil dans l'étude des naissances et décès à Abidjan. On estime que 95 % des naissances sont inscrites, contre 50 % dans le cas des décès. Malgré les problèmes de données, l'auteur souligne les caractéristiques importantes de la mortalité infantile et juvénile : les différences entre les sexes, les variations des taux de mortalité selon le milieu socio-économique et le caractère saisonnier de la mortalité. (F.M. traduit)

195 Dittgen, A. 1980. *Etude de la mortalité à Abidjan en 1975 à partir de l'état civil : mortalité général. mortalité infantile et juvénile.* In Institut de Formation et de Recherche Démographique, Actes du colloque de démographie d'Abidjan. pp. 76-123 (7 réf.)

§ L'étude est divisée en deux grandes parties : mortalité générale (mortalité par âge et sexe) et mortalité infantile et juvénile (variation selon l'âge le sexe et la saison). A partir des données du recensement général de population en 1975, les 12 arrondissements ont été regroupés en quatre grands quartiers pour en définir les caractéristiques des décès de l'année 1975, les taux apparents de mortalité par âge et sexe, une évaluation de l'espérance de vie et une évaluation de la mortalité à partir de la survie des ascendants. L'étude sur la mortalité infantile et juvénile a concerné l'évaluation par âge et sexe, la variation mensuelle et âge l'évolution par âge en mois selon la saison. Est présenté aussi un aperçu sur les causes de la mortalité infantile et comme conclusion quelques notes sur l'utilisation de l'état civil à des fins démographiques. (PIDSA) *

196 **Dorjahn, V.R.** 1976. *Rural-urban differences in infant mortality among the Temne of Kolifa.* Journal of Anthropological Research, 32, 74-103 (tables, 45 refs.)

§ The author's census data, collected in 1963, are used to compare infant and child mortality among the Temne of the rural chiefdom of Kolifa Mayoso and the nearby provincial town of Magburaka in central Sierra Leone. Problems in data collection and analysis are considered, and Temne cultural beliefs and practices which may influence early mortality levels are described. Comparative data from Sierra Leone, as well as other West African countries and the United States, are utilized with respect to late fetal (stillborn), perinatal, neonatal, postneonatal, infant, and child mortality. Data relating to sex differences in early mortality and to higher mortality in cases of multiple births are included. The relatively high child mortality (probably related to weaning) in relation to infant mortality for both rural and urban series, and the lower urban than rural rates, exemplify the prevailing pattern for West Africa and, perhaps, for less developed areas generally. (AU)

197 **Dowler, E.A., Luck, B.M., Robson, V.A., Kigeme, E.A.R.** 1980. *Anthropometric survey of 1074 pre-school children in southern Rwanda. Central Equatorial Africa.* Journal of Tropical Pediatrics, 26(4), 134-138 (tables, 15 refs.) ISSN 0142-6338

§ The nutritional status, as determined by anthropometry, of 1074 preschool children was measured in a 6-week survey of a small area of southern Rwanda. Little evidence of low weight-for-height, clinical signs of protein-energy malnutrition, or reduced arm circumference was found, but a proportion with marked reduction in height-for-age was seen at every age. The risks of being stunted in this population are discussed. (SALUS)

198 **Doyle, P., Morley, D., Woodland, M., Cole, J.** 1978. *Birth intervals, survival and growth in a Nigerian village.* Journal of Biosocial Science, 10, (20 refs.) ISSN 0021-9320

§ Results are presented from an analysis of the intervals between births from Imesi, western Nigeria. The mean interval following births of children who survived to 1 year was 35.03 months, but was only half this value (18.8 months) following stillbirths or deaths under 1 year. Both these results confirm an earlier study done in the village, and the role of postpartum sexual abstention as an explanation for these results is discussed. Attempts were made to look for effects of birth interval variation on the survival of the following child, but no strong trends emerged. Similarly, analyses of many growth variables by preceding and following birth intervals gave very little evidence of real effects. There were, however, hints of trends that were possibly caused by birth-order biases; higher birth orders had been found to have correspondingly higher birth intervals. An intriguing result was that those children who had ever suffered from kwashiorkor showed a significantly higher preceding mean birth interval, and also a higher mean interval to the next birth. (AU)

199 **Drejer, G.F.** 1980. *Bottle-feeding in Douala, Cameroons.* Journal of Tropical Pediatrics, 26(1), 31-36 (tables, map, fig.) ISSN 0142-6338

§ Infant feeding practices in urban areas of developing nations, such as Douala in the Cameroons, are changing. A survey of 476 mothers with a child under 1 year revealed that 14% were bottle-feeding their babies. As education of the mother and income of the father rose, incidence of bottle-feeding did also. The most common reason for bottle-feeding was insufficient breast milk; it was often supplemented with breast milk or other foods, such as porridge. Facilities for sanitary preparation of bottles are lacking. Although Western influence is significant in the trend toward bottle-feeding, the Bamilike of Douala seem less susceptible to the new practices than people in the south of the Cameroons. (AGRICOLA)

200 **D'Souza, S.** 1984. *Small-area intensive studies for understanding mortality and morbidity processes: two models from Bangladesh - the Matlab project and the Companiganj health project.* In Data bases for mortality measurement: papers of the meeting of the United Nations/World Health Organization working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 October, 1981. Population Studies, no. 84, Department of International Economic and Social Affairs, United Nations, New York, US. pp. 146-158 (tables, figs., 21 refs.) ST/ESA/SER.A/84

§ In this chapter, the author describes the background, history, and some findings of the pioneer Cholera Research Laboratory (now the International Center for Diarrhoeal Disease Research) in Matlab Thana, Bangladesh, and of the more recent, and somewhat less intensive, Companiganj Health Project. The Matlab project, combining intensive registration efforts with periodic censuses for a population of around 200,000, has provided both an abundance of mortality information useful for the study of disease etiology and a ready-made setting for treatment trials. This chapter brings out the uses to which the mortality information has been put and also describes some of the bottlenecks experienced. (Hill 1984)

201 **Duboz, P.** 1984. *Mortalité et morbidité infantile et juvénile en République Populaire du Congo.* Cahiers de l'ORSTOM - Série Sciences Humaines, 20(2), 157-170 (tables, cartes, fig., 11 réf.) En, Es ISSN 0008-0403

§ L'auteur présente les résultats de cinq études démographiques et médicales sur la morbidité et la mortalité dans l'enfance au Congo. Ces résultats, provenant des zones différentes et couvrant des périodes distinctes, sont d'autant plus utiles qu'ils concernent un pays où les données sont peu nombreuses et récentes. L'analyse de ces résultats permet de mettre en valeur le niveau relativement peu élevé, pour un pays africain, de la mortalité infantile et juvénile et la place importante des maladies infectieuses et respiratoires dans la morbidité et les causes de décès des jeunes enfants. (AU)

202 **Dupuis, A.** 1981. *Quelques représentations relatives à l'enfant de la conception au sevrage chez les Nzébi du Gabon.* Journal de la Société des Africanistes Paris, 51(1-2), 117-132 (8 réf.) En

§ Si les interdits et prescriptions entourant la gestation, l'accouchement et la période de l'allaitement, quasi-constants en Afrique sont bien connus, leur fonction symbolique n'a jamais été étudiés systématiquement. Les discours qui les accompagnent et les justifications données, situés dans l'ensemble des institutions (alliance, parenté, diverses positions de la femme) suggèrent que, au-delà de la fonction de régulation des naissances, les règles très strictes régissant la période qui va de la conception au sevrage visent, du moins dans l'exemple des Nzébi, à définir l'identité de l'enfant au sein des lignages paternel et maternel. Cette identité semble se mettre en place progressivement et apparait comme constituée au moment du sevrage. Au-delà de ces représentations, le système des transgressions et de ses sanctions marque les limites de la loi et en souligne la fonction symbolique et structurante. (AU)

203 **Dutertre, J., Nepote Vesino, R.** 1978. *Le mortalité infantile dans un village rural ivoirien.* Médecine Tropicale, 38(1), 95-97 (fig., 2 réf.) En

§ Le présent document a pour objet de montrer que la mortalité périnatale et infantile dans les villages africains n'est pas aussi élevée que celle indiquée dans les rapports. Dans un village ivoirien de 6000 habitants, l'hopital missionnaire local a enregistré les nouveau-nés et les mort-nés pendant une période de 10 ans; les autorités civiles ont consigné par écrit tous les décès survenus durant ce laps de temps. Il ressort de l'analyse statistique que la mortalité périnatale et infantile est de 48,6 et 63 p. 1000, respectivement. (SALUS traduit)

204 **Ebigbo, P.O., Chukudebelu, W.O.** 1980. *Child spacing and child mortality among Nigerian Igbos.* International Journal of Gynaecology and Obstetrics, 18(5), 372-374 (tables, 4 refs.) ISSN 0020-7292

§ The relationship between birth intervals and infant and child mortality was assessed using interview data collected from a random sample of 199 women who attended the antenatal clinic at the University of Nigeria Teaching Hospital in Enugu, Nigeria. Major findings were: birth intervals decreased markedly from the past when a 2-year interval between pregnancies was common; approximately 40% of children born to the sample of women did not survive. The shorter birth intervals are considered to be the result of a reduction in breastfeeding and cultural pressures to bear many children. The close spacing of pregnancies increases risk factors for each conception. Policy implications of the findings are given. (F.M.)

205 **ECA (Economic Commission for Africa),** 1975. *Techniques of evaluation of basic demographic data.* African population studies series, no. 2, ECA, Addis Ababa, ET. 268 p. (tables, figs., refs.)

§ This document contains the report of the seminar on techniques of evaluation of basic demographic data held 16-27 July 1973 in Accra, Ghana, and six papers presented at that event. The papers address the following areas of concern with reference to Africa: errors and biases in demographic data and estimates; the adjustment of incomplete or imperfect population data; attempts at adjustment of severely inaccurate age statistics; the comparative analysis of the accuracy of census age distribution; the adequacy of age and sex data in Zambia's 1969 population census for estimates of fertility; and an evaluation and analysis of the 1970 population census results of Ghana. (F.M.)

206 **ECA (Economic Commission for Africa), Zambia, Central Statistical Office,** 1982. *Interrelationships among infant and childhood mortality, socio-economic factors and fertility in Zambia: a case study of Lusaka and Keembe.* ECA, Addis Ababa, ET. 300 pp. (7 refs.) E/ECA/POP/11 UNFPA project no. ZAM/80/P01

§ The United Nations' Economic Commission for Africa and the Central Statistical Office, Lusaka, jointly undertook a multiround survey in 1978 and 1979 of the interrelationships among infant and childhood mortality, socioeconomic factors, and fertility in a rural and an urban community in Zambia. The survey, which combined retrospective and prospective data collection methodologies, also investigated cultural, economic, and nutritional elements that determined the period of lactation and child-spacing practices. In addition, data were collected on women's role in Zambian society. The survey comprised a sample of 2572 households containing 16 508 persons of whom 4282 were women aged 12-50 years. The results of the fieldwork were presented to a national feed-back seminar organized in Kabwe in 1982. The documents presented at that seminar were revised and form the subject matter of this publication. The particular topics included are: methodology; family household structure and change in Zambia; marriage patterns, and change in Zambia; mortality and fertility levels, patterns, and differentials; body weight, height, and nutrition of Zambian children under 5 years of age; food and feeding patterns, and habits; breastfeeding and sexual abstinence; knowledge, practice, and attitude to birth regulation; family size preference and child spacing; availability and use of medical facilities; migration; women and future development. (AU modified)

207 **ECA (Economic Commission for Africa),** 1984. *Mortality levels, patterns and trends in Africa: a comparative analysis for selected countries in West Africa.* ECA, Addis Ababa, ET. 38 p. (tables, 27 refs.) ECA/PD/WP/1984/11

§ Data from population censuses for Gambia, Ghana, Liberia, and Sierra Leone are analyzed to estimate mortality levels, patterns, and trends. Findings indicate that mortality levels remained high in the 1960s and 1970s as implied by high infant and childhood mortality, the high levels of crude death rates, and low life expectancy at birth in all four countries. Analysis indicates that the pattern of mortality corresponds to the North version of the Coale-Demeny mortality model patterns, with a higher incidence of childhood than infant deaths. Because the disease pattern was dominated by preventable infections, parasitic, digestive, and respiratory diseases, recommendations include the improvement of environmental conditions that affect children most, the provision of adequate foods, and improvement in the distribution of health facilities. (AU modified) *

208 **ECA (Economic Commission for Africa), Population Division,** *Mortality levels, patterns and trends in Africa: a comparative analysis for selected countries in West Africa.* ECA, Addis Ababa, ET. 38 pp. (tables, figs., refs.) ECA/PD/WP/1984/11

§ This comparative analysis attempts to estimate mortality levels, patterns, and trends in Ghana, Gambia, Liberia, and Sierra Leone as a first step to verifying the assertion that mortality in this subregion is higher than it is in other parts of Africa. First, an assessment and appraisal of the quality of data used in the analysis is done. The subsequent two sections present the results of analysis and illustrate the relative importance of infant and child mortality. Analysis suggests that the pattern of mortality corresponds to the North version of the Coale-Demeny mortality model. The fourth section analyzes causes of death data. Finally, policy implications are drawn. (AU modified)

209 **ECA (Economic Commission for Africa), Population Division,** 1981. *Some indirect mortality estimates for Libya, Tanzania and Kenya.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. ECA, Addis Ababa, ET. pp. 134-150 (tables, 10 refs.) ST/ECA/SER.A/1

§ The objectives of this paper are to experiment with new techniques for estimating mortality and to estimate the relevant mortality indices for Libya, Tanzania, and Kenya. For estimating child mortality, the Brass basic method and its modifications by Sullivan and Trussell give fairly consistent estimates, although experience has shown that the Sullivan and Trussell estimates are preferable, especially after logit smoothing. (AU modified)

210 **ECA (Economic Commission for Africa), Population Division,** 1981. *Correlational variations in the determinants of death and infant mortality rates in Africa.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. ECA, Addis Ababa, ET. pp. 380-393 (tables, 15 refs.) ST/ECA/SER.A/1

§ On the premise that the prevalence and incidence of death is age-, sex-, and cause specific, the objectives of the paper are to delineate the prevailing level and pattern of variations in infant, child, and adult mortality; and to analyze specifically the correlates of infant death as well as total death variations in Africa. Findings indicate: a high general level of mortality that varies regionally and within countries; adult literacy is of paramount importance in reducing general and, more especially, infant mortality; although urbanization and per capita national income were significantly correlated with child death rate, they were insignificantly related to infant mortality. The indication is that infant mortality variations are much more sensitive to health conditions, nutrition, environmental quality than child death rate variations. (AU modified)

211 **ECA (Economic Commission for Africa), Population Division,** 1981. *Report of the Expert Group meeting on fertility and mortality levels, patterns and trends in Africa and their policy implications .* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. ECA, Addis Ababa, ET. pp. 1-31ST/ECA/SER.A/1

§ The main objective of this meeting was to focus on the relationships between economics and demography and to assess methodologies for the collection and analysis of demographic data. Papers were classified under the topics: background to fertility and mortality in Africa; the usefulness and relevance of existing methodologies for collecting, processing, and analyzing fertility and mortality data; regional and country studies on levels and patterns of fertility and mortality; fertility and mortality trends and differentials; biological and sociocultural aspects of infertility and sterility; the significance of breastfeeding for fertility and mortality; the evolution of causes of death and the use of related statistics in mortality studies; family planning and fertility in Tunisia and Mauritius; and fertility and mortality in national development. Recommendations for research and planning are given. (F.M.)

212 **ECA (Economic Commission for Africa), Population Division,** 1983. *Mortality levels, patterns and trends in Africa: a comparative analysis for selected countries in eastern Africa.* ECA, Addis Ababa, ET. 36 pp. (tables, figs., 23 refs.) ECA/PD/WP/1983/21

§ Data on mortality from Kenya, Malawi, Tanzania, and Zambia are assessed and appraised. The results of analysis are presented and an attempt is made to illustrate the relative importance of infant and childhood mortality within the general mortality situation. Causes of death data are analyzed and policy implications of the findings are drawn. It is suggested that, because infectious, parasitic, and respiratory diseases contribute to very high death rates among children, programs to improve sanitation and nutrition and the provision of better water supplies would have a significant impact on morbidity and mortality in the region. (AU modified)

213 **ECA (Economic Commission for Africa), Population Division,** 1984. *The influence of development-related changes on infant and childhood mortality in Africa.* In UN. Dept. of International Economic and Social Affairs, Mortality and health policy: international conference on population, 1984. Proceeding of the Expert Group on mortality and health policy, Rome, IT, 30 May - 3 June 1983. United Nations, New York, US. pp. 112-125 (tables, 15 refs.) ST/ESA/SER.A/91

§ In the first part of the paper the level of infant and child mortality in African countries is assessed. Findings indicate that the overall pattern of mortality is dominated by under-five child mortality. Infections, parasitic and respiratory diseases are the main causes of these deaths. The paper then analyzes the impact of health programs, urbanization and education on child mortality. It is concluded that maternal education is strongly and independently related to decreased levels of infant and child mortality. Policy recommendations are drawn from this. (F.M.)

214 **ECA (Economic Commission for Africa), Statistics Division,** 1979. *An appraisal of the methods and problems of civil registration practices and vital statistics collection in Africa.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. ECA, Addis Ababa, ET. pp. 76-109 (tables, 23 refs.) ST/ECA/SER.A/1, UNFPA project no. RAF/78/P17

§ This paper discusses the historical background to the development of civil registration systems in African countries and aspects of civil registration practices in Africa, and appraises some of the problems and gaps in the systems. It is pointed out that, unless vital registration certificates become essential for administering social services and related activities, such as entry into school, employment, insurance, taxation, and others, they will not have wider appeal. (AU abbrev.)

215 **ECA (Economic Commission for Africa), Statistics Division,** 1981. *Collecting fertility and mortality data among nomads.* In ECA, Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. ECA, Addis Ababa, ET. pp. 67-75 ST/ECA/SER.A/1

§ Several techniques are used for enumerating nomads in the African region: the hierarchical approach, which follows the feudal social structure of the nomadic group; the water-point approach, where water-holes are constructed and the nomads who bring their livestock to the water are interviewed; the geographical approach, where the nomadic areas are divided into enumeration areas; the group assembly method, where nomads are asked to assemble at a number of centres; the camp approach, where enumeration takes place in camps; and the satellite imagery technique where satellite imagery and selected ground work is used to estimate number of nomads. The difficulties in enumerating nomads indicate that basic fertility and mortality questions might be inappropriate unless they are administered on a small sample and interviewers are willing to move among the nomads. Obtaining vital rates from nomads seems rather difficult and a more effective methodology for enumerating nomads in African countries must be evolved. (PIDSA)

216 **Ecoma, E.E., Weiss, E.M.** 1980. *The Calabar Rural MCH/FP Project, 1975-1979.* In Atkins, B.S., Maternal and child health/family planning program: technical workshop proceedings, New York, US, 31 Oct. - 2 Nov. 1979. Population Council, New York, US. pp. 100-129 (tables)

§ This paper reports on activities in the Calabar project in Cross River State, Nigeria. The project was one of four that developed from the concern of the Population Council to extend coverage of basic maternal and child health and family planning services to women. The project was designed, in the Nigerian context, to answer the question:

How much service can be provided if it is to be replicable at a cost than can be afforded? After a discussion of the population characteristics and the existing health care system in the area, inputs - facilities, personnel (including training), money, supplies, and administration - are identified, and the services delivered are discussed. (F.M.)

217 **Eelens, F.** 1983. *Impact of breastfeeding on infant and child mortality with varying incidence of malaria - evidence from the Kenya Fertility Survey 1977-78.* Interuniversity Programme in Demography, working paper 1983-3, Vrije Universiteit Brusel, Brussels, BE. 29 p. (tables, figs., 16 refs.)

§ The relationship between breastfeeding and infant and child mortality is examined using data from the Kenya Fertility Survey of 1977-79 and the construction of a number of regression models. The author concludes that although breastfeeding duration has not yet decreased dramatically in Kenya, a reduction in the duration of both full and partial breastfeeding would lead to a significant increase in the probability of death in the early years of life. It can be expected that the effect of shorter partial breastfeeding durations would be greatest in areas with low or median endemicity of malaria, because partial breastfeeding does not provide adequate protection against disease in regions where malaria is hyperendemic. A reduction in full breastfeeding duration would however lead to a greater increase in mortality risks in high malaria regions. Policy implications of these findings are drawn. (AU modified)

218 **Eelens, F.** 1984. *The influence of breastfeeding on infant and child mortality in Tropical Africa - results for the Kenya, Ghana and Lesotho Fertility Surveys.* 204 p. (tables, figs., 123 refs.) NI

§ During the last decade concern has risen over the effect of declining durations of breastfeeding and increased use of infant formulae on infant and child mortality in the Third World. The aim of this study is to provide more information about the relationship between weaning and early mortality in tropical Africa. Statistical techniques (including logit and linear probability models) are applied to World Fertility Survey data from Ghana, Kenya, and Lesotho. Topics examined are the gross and net effects of full and partial weaning on subsequent mortality risks and the interactive effect on mortality between the duration of breastfeeding and the socioeconomic and epidemiological context in which mother and child live. For Kenya, the influence of compulsory weaning due to the mother's pregnancy on the survival chances of the next child is also investigated. (AU abbrev.)

219 **Effiong, C.E.** 1976. *Neonatal morbidity and mortality in Ibadan: a review of cases seen in the outpatient clinic.* Journal of Tropical Pediatrics and Environmental Child Health, 22(6), 265-267 (tables, 9 refs.)

§ A review of 1972 records from the Children's Emergency Room, University College Hospital, Ibadan, Nigeria, has shown that of the 372 neonates admitted, 79 (21.2%) died. Jaundice, infections (including tetanus), and congenital malformations accounted for 84% of the admissions and 77% of the deaths. It is suggested that both morbidity and mortality from jaundice and infection could be reduced through health education and immunization of antenatal clinic attenders against tetanus. It is also deemed expedient that, in view of lack of space in the children's ward, the Children's Emergency Room be equipped with neonatal facilities such as incubators. (SALUS)

220 **Eide, W.B.** 1979. *Women in food production, food handling and nutrition with special emphasis in Africa: a report.* FAO Food and Nutrition Paper, no.8, Food and Agriculture Organization of the United Nations (FAO), Rome, IT. 223p. (tables, refs.) 92-5-100691-1

§ This report presents an appraisal of the information currently available concerning: women's role in food production, food handling, and nutrition in Africa; and the extent to which the conditions under which women live and work have a bearing upon the availability of food and the nutritional levels of their families and communities. Specifically, the objectives are to assess the adequacy of the conceptual and methodological orientations of current research on women's role in food production, food handling, and nutrition; to indicate linkages between food and nutritional status and various aspects of women's role in food production; and to identify new directions in research to provide a basis for better planning and implementation of practical programs (AU abbrev.)

221 **Ejezie, G.C.** 1981. *Parasitic diseases of school children in Lagos State, Nigeria.* Acta Tropica, 38(1), 79-84 (map, tables, 9 refs.)

§ A survey involving 5595 primary schoolchildren in Lagos State, Nigeria, revealed high rates of parasitic infestation, including malaria (37.7%), schistosomiasis (13.4%), ascariasis (74.2%), trichuriasis (75.8%), hookworm (29.5%), and tungiasis (49.5%). Multiple infections were common, with 16.2% of the children harbouring all of the aforementioned agents. These findings are indicative not only of the community's low level of health but also of its need for health education. It is suggested that the school teachers have a tremendous role to play in this regard. (SALUS)

222 **Ekanem, I.I., Faroog, G.M.** 1976. *The dynamics of population change in southern Nigeria.* Nigerian Journal of Economic and Social Studies, 18(1), 51-77 (tables, 19 refs.)

§ Using data from a national fertility, family, and family planning survey, carried out from the University of Ife between 1971 and 1973, the fertility and mortality levels and trends in the southwestern and eastern areas of Nigeria are discussed. Findings indicated an infant mortality rate of 118 per 1000 for the east and 97 for the southwest. Fertility rates were also found to be high in both areas. On the basis of these estimates, population growth for the period up to 1973 was projected. (F.M.)

223 **Ekanem, I.I.** 1981. *Estimation of early childhood mortality from children ever born and surviving.* Canadian Studies in Population, 8, 41-48 (tables, 15 refs.) Fr

§ Among the problems associated with the use of maternity history data to estimate child mortality, the issue of live births who died before survey without a known year of birth or age at death has received little or no attention. As a possible solution, this study develops a life table technique for estimating early childhood mortality using data on children ever born and surviving. Data from the survey on fertility, family, and family planning in southwestern Nigeria (1971) are used to illustrate the operational mechanics of the technique. The derived estimates of life expectancy for the ages 0-4 and 5-9 approximate corresponding estimates with the same data using the Brass logit function approach. (AU)

224 **Ekanem, I.I.** 1982. *Estimation of infant and child mortality trends from reported and surviving trends.* Genus, 38(1-2), 185-197 (tables, refs.) It, Fr

§ A major problem in the analysis of infant and child mortality trends from survey data on pregnancy histories is the lack of knowledge of the year of birth or exact age at death of reported live births. As a possible solution, this study develops a life table technique for estimating infant and child mortality trends using the number of surviving, rather than all, live births reported by women aged 15-49 years. The basic data for the estimation technique is a distribution of the children (by sex) that survived to the survey date in years before survey (0-4, 5-9,..., 30-34) as well as the total reported live births per cohort of the women (15-19, 20-24,..., 45-49) interviewed during the survey. Using the two sets of data, a distribution of all live births in years before survey by age of mother is then derived. By relating the number of surviving to all live births in years before survey by age of mother and examining comparable cell entries, the trends in infant and child mortality per female cohort are easily discerned. However, the problem of omitted live births still remains. The data used in illustrating the operational mechanisms of the method derives from a knowledge, attitude, practice (KAP) family planning survey in southwestern Nigeria (1971). Despite slight fluctuations, the general tendency was a declining infant and child mortality in southwestern Nigeria during the period 1937 to 1971. (AU abbrev.) *

225 **El Hakim, S.** 1981. *Sudan: replacing TBAs by village midwives.* In Mangay-Maglacas, A., Pizurki, H., The traditional birth attendant in seven countries: case studies in utilization and training. Public Health Papers, no.75, World Health Organization, Geneva, CH. 131-166 (tables, figs., 22 refs.) ISBN 92 4 130075 2

§ Based on the problems associated with untrained traditional birth attendants in Sudan, high rates of infant and child morbidity and mortality, and the organization of maternal and child health services in Sudan, the author discusses the training program for village midwives as it has evolved in the country. The following aspects are examined: administrative and technical aspects (technical and financial support, recruitment, trainers, course content and methods of training, evaluation of teaching and learning, training statistics);

management of village midwives (supervision, referral system, legislation affecting the practice of midwifery); the performance of the midwife; the impact of the midwife on health status. (F.M.)

226 **El Karim, O., Salih, M.A.** 1981. *Morbidity and mortality from measles in an urban community of the Sudan.* Annals of Tropical Medicine and Parasitology, 75(2), 227-230 (fig., 14 refs.)

§ In examining measles morbidity and mortality in a developing country, this paper gives an account of the 183 cases admitted to El Buluk Hospital in Khartoum, Sudan, from January 1975 to December 1976. The disease, affecting mainly children aged 1-3 years, had a relatively low fatality rate (4.9%) but high morbidity, with the most frequent complication being bronchopneumonia (73.8%) followed by purulent conjunctivitis and dehydration from diarrhea and vomiting. Seasonal variation was apparent in 1976 with the number of cases reaching a peak during the dry period, April-June. The findings are compared to those of other reports from India and Africa. (SALUS)

227 **Elegbe, I.A., Ojofeitimi, E.O.** 1984. *Early initiation of weaning foods and proliferation of bacteria in Nigerian infants.* Clinical Pediatrics, 23(5), 261-264 (tables, 19 refs.) ISSN 0009-9228

§ Types of weaning foods were followed for 95 children ranging in age from 1 to 18 months. Of the 95 children, 45 were evaluated for intestinal bacteria colonization. The most frequently isolated pathogens were enteropathogenic *Escherichia coli* and *Staphylococcus aureus.* Children who were not subjected to early initiation of weaning and supplementary foods had lower bacteria counts than their counterparts. (AU)

228 **Eléonore, F.K.** 1984. *Etat nutritionnel de l'enfant camerounais d'âge préscolaire en rapport avec le niveau socio-économique.* Semaine des Hôpitaux, 60(12), 860-863 (tables, 30 réf.) En ISSN 0037-1777

§ Les enfants de 12 à 60 mois de la zone rurale du Sud-Cameroun ont, du fait de leur mauvais état socio-économique, une alimentation carencée en protéines, ce qui entraine chez eux un état de malnutrition qui se caractérise par : un taux de protéines et d'albumine sérique abaissé; une plus grande parasitose intestinale; un index d'hydroxyproline abaissé; un taux d'igG élevé. Tous ces taux sont normaux chez les enfants des classes aisées de Yaoundé (groupe C) tandis qu'ils sont intermédiaires chez ceux de la zone suburbaine de Yaoundé (groupe B) dont l'état socio-économique est meilleur que celui du groupe A et moins bon que celui du groupe C. Au Cameroun, il existe donc une relation entre la statut socio-économiqe et l'état de nutrition. (AU)

229 **Elliott, T.C., Agunda, K.O., Kigondu, J.G., Kinoti, S.N., Latham, M.C.** *Breastfeeding versus infant formula: the Kenyan case.* Food Policy, pp. 7-10 (8 refs.)

§ The authors discuss the formulation of national policy on infant feeding practices on the basis of data collected in Kenya. Particular reference is made to the findings of the Infant Feeding Practices Study carried out in 1982 among 980 low- and middle-income women in Nairobi. (F.M.)

230 **Ewbank, D.C.** 1984. *Uses of mortality data for evaluating the success of specific health and development programmes.* In Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, TH, 20-23 October 1981, Population studies, no. 84. U.N. Department of International Economic and Social Affairs, New York, US. pp. 18-30 (tables, 20 refs.)

§ On the grounds that one measure of the success of health and development programs is a decrease in mortality, evaluation of such programs should take into account changes in mortality. An evaluation should include two components: measurement of the change and a test for a causal relationship between the change and the program. These components will draw on techniques from both demography and epidemiology. With reference to this, the author discusses: the role of national data for evaluation studies; the specification of expected program impact and measurement of actual impact relevant to establishing a link between a program and subsequent events; problems associated with assessing the health impact of general development programs; the relative merits for different purposes of different study methodologies; examples of evaluations; issues of sampling. (AU modified)

231 **Ewbank, D.C., Henin, R.A., Kekovole, J.** 1986. *An integration of demographic and epidemiologic research on mortality in Kenya.* In Determinants of mortality change and differentials in developing countries: the five-country case study project. Population Studies, no. 94, Department of International Economic and Social Affairs, New York, US. pp. 33-85 (tables, maps, 84 refs.) ST/ESA/SER.A/94 ISBN 92-1-151151-8

§ This study includes three major components: an estimate of the levels and trends in mortality for each of 41 districts, providing the basis for discussing geographic differentials and for evaluating the reliability and generalizability of epidemiologic data on cause of death; a review of the studies of the effect of socioeconomic and environmental availability on mortality differentials, based largely on the work of demographers using data at both the district and household levels, from censuses and demographic surveys; an attempt to estimate mortality rates by cause for the country and, whenever possible, to examine geographic differentials or time trends for specific causes of death. The final section reviews the most important implications of the findings for health planning (AU abbrev.)

232 **Fadima, D.** 1986. *Apport des micro-ordinateurs dans l'amélioration de la collecte et des résultats.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 66-86 (tables) IDRC-MR125f, INSAH no. 5

§ L'auteur décrit les usages spécifiques auxquels se prêtent les microordinateurs dans le cadre d'enquêtes à passages répétés visant à obtenir des informations sur la mortalité infantile. On y discute des logiciels de vérification et d'analyse des données recueillies sur le terrain. (F.M. traduit)

233 **Fall, M., Kuakuvi, N., Kessie, F., Martin, L.S., Sanokho, A.** 1977. *A propos du kwashiorkor tardif.* Bulletin de la Société Médicale d'Afrique Noire de Langue Française, 22(3), 295-300 (6 réf.) En

§ Un nombre total de 112 enfants âgés de 42 mois à 12 ans ont été examinés au cours d'une période de 5 ans à Dakar, au Sénégal, afin de déterminer les principales caractéristiques du kwashiorkor tardif. Étiologiquement, le kwashiorkor se manifeste habituellement chez les enfants de ce groupe à la suite d'une famine et comporte un plus grand risque d'infection parasitaire, et la diarrhée en est le plus important aspect clinique; elle se distingue de la diarrhée liée au kwashiorkor commun et est plus difficile à soigner. Pour ce groupe d'âge, le taux de mortalité est de 33 %; le traitement est plus lent et exige une plus longue période d'hospitalisation. (SALUS traduit)

234 **Fall M., Sow, D., Diakhate, L., Senghor, G.** 1982. *Anémies nutritionnelles chez l'enfant sénégalais : facteurs économiques et culturels.* Annales de Pédiatrie, 29(4), 283-288 (tables, 11 réf.) En

§ L'anémie nutritionnelle chez l'enfant au Sénégal est liée à des facteurs socio-économiques et à des facteurs traditionnels. Les facteurs socio-économiques sont dominés par la faiblesse des revenus, le déséquilibre de la production agricole entrainé par la monoculture arachidière et l'urbanisation. Les facteurs traditionnels par l'allaitement maternel prolongé, la faible teneur en protides et en fer des bouillies, les interdits alimentaires sur les protéines animales, et les modalités du sevrage. La fréquence de la géophagie est un facteur supplémentaire. (AU)

235 **Familusi, J.B., Adesina, V.A.** 1977. *Poliomyelitis in Nigeria: epidemiological pattern of the disease among Ibadan children.* Journal of Tropical Pediatrics and Environmental Child Health, 23(3), 120-124 (tables, 23 refs.)

§ The epidemiological pattern of paralytic poliomyelitis seen in a pediatric clinic in Ibadan, Nigeria, from 1964 to 1973 is described. The peak incidence was in the second year of life and more than 80% of the patients were aged 6 months to 3 years. The occurrence of the disease before 6 months of age in 7% of the cases emphasizes the need for earlier immunization. No seasonal or epidemic pattern was evident and comparison of the incidence of polio with rainfall and temperature showed no significant correlation. A strategy that emphasizes early immunization through infant welfare centres with quadruple (tetanus, poliomyelitis, diphtheria, and pertussis) vaccine is suggested. (SALUS)

236 **Farah, A.A.** 1981. *Child mortality and its correlates in Sudan.* University

Microfilms International, Ann Arbor, US. 269 p. (tables, figs., maps, 127 refs.)

§ The level of child mortality, q(2), based on the 1973 census of Sudan, is 0.170 with an interregional range of 0.121-0.253. Regional variations of q(2) are consistently marked by differences in socioeconomic traits. The coefficient of correlation of the regional q(2) with per capita income is -0.98, with female literacy rate is -0.80, and with population-doctor ratio is 0.93. Assessing demographic stages of the regions, the analysis resulted in a negative correlation coefficient of -0.65 between q(2) and total fertility rates. Areas of lowest fertility (poorer areas) are also areas of highest mortality and vice versa. Using two different methods for examining the trend of child mortality, the thesis demonstrates a very insignificant rate of infant and child mortality decline during the period 1956-73. Multivariate analysis of child mortality covariates based on census data and on the 1975 survey specific to women in Khartoum metropolitan area showed that mother's and father's years of schooling are insignificant, but the regression coefficient of maternal education is four times higher than that of paternal education in both national and Khartoum's regression equations. Analysis of both data sets shows that female labour force activity is positively and insignificantly related to child mortality. Husband's occupation is an effective explanatory variable in the national regression and not insignificant in Khartoum. Quality of housing (in national analysis) and modern goods (in Khartoum) are insignificant and work in the expected direction. Various analyses in Khartoum showed that woman's status in the family and society, her place of birth, and her contraceptive behaviour are evidently strong variables in mortality equations. Controlling for individual characteristics, the national regression model indicated that the dramatic variations of mortality in Sudan are regional in nature. The net contributions due to differences in regional traits are overwhelming in overall mortality differences. The study also examined the effects of child mortality on fertility desires and contraceptive behaviour. (AU modified)

237 **Farah, A.A.** 1983. *Infant mortality and socio-economic determinants of fertility attitudes and behaviour in Greater Khartoum.* In Demographic transition in metropolitan Sudan. Changing African Family Project Series, monograph no. 9, Australian National University, Canberra, AU. pp. 146-178 (tables, refs.) 0-86784-213-X

§ Data collected from 2045 women drawn from different socioeconomic strata during a 1975 fertility survey of Greater Khartoum as part of the Changing African Family Project are used as the basis of a study whose two main objectives were to examine the relationship between child mortality and the fertility desires of women, and to assess the effects of changes in child mortality on fertility behaviour through contraceptive behaviour. Following multivariate analyses, which include socioeconomic and demographic variables, the author concludes: child mortality is strongly related to fertility desire; this relationship is stronger than that between mortality and contraceptive behaviour; the demographic variables are more closely associated with fertility attitudes than socioeconomic variables, although the latter are better predictors of behaviour than demographic variables. (F.M.)

238 **Farah, A.A., Preston, S.H.** 1983. *Child mortality differentials in Sudan.* In Demographic transition in metropolitan Sudan. Changing African Family Project Series, monograph no. 9, Australian National University, Canberra, AU. pp. 125-147 (tables, figs., refs.) 0-86784-213-X

§ Data from the 1973 Sudan census and from a Changing African Family program survey conducted in Greater Khartoum in 1975 are used to determine mortality differentials in Sudan. While census data are used to estimate regional differences and to assess the influence of maternal education and region of residence on mortality, data from the Khartoum survey provide the basis for more in-depth analysis of factors influencing child mortality. In this context, the variables examined include: paternal education, occupation and income; maternal education, occupation, place of birth, and status; and type of dwelling. (F.M.)

239 **Fargues, P.** 1984. *Ages au décès et niveaux de mortalité : évaluer le taux d'enregistrement des décès à partir de leur structure par âges.* Population, 39(1), 47-76 (tables, fig., 18 réf.) En, Es

§ Lorsque l'on dit que la mortalité baisse, on fait un constat transversal. Longitudinalement, c'est un retard de l'âge au décès que l'on observe. Entre niveau de la mortalité et répartition par âge des décès, il existe ainsi une relation. Dans les pays où un état civil incomplet ne fournit qu'une

estimation de la répartition par âge des décès, cette relation permet d'évaluer l'effectif total des décès après le premier anniversaire de construire des tables de mortalité à partir de cet âge. Avant un an, il existe également une relation entre niveau de la mortalité et répartition par âge des décès, bien qu'elle ne soit pas de même nature. Les causes de décès les plus difficiles à maitriser, se sont en effet avéré être celles qui agissent surtout durant les premiers jours de la vie. En retenánt les statistiques de 18 pays du Tiers-Monde, on a ainsi pu établir une relation entre la proportion des décès néo-natals et le quotient de mortalité infantile. Elle donne une estimation de ce dernier indice, dans les cas où seule est disponible la répartition des décès infantiles selon deux groupes d'âge: 0 mois et 1-11 mois. (AU)

240 **Fargues, P.** 1984. *L'évaluation du niveau de la mortalité à partir des données des EMIJ.* Réunion technique sur les enquêtes sur la mortalité infantile et juvénile, IFORD, Yaoundé, CM, 19-23 Nov. 1984. 37 p. (tables, fig., 8 réf.)

§ L'objectif assigné à l'Enquête sur la mortalité infantile et juvénile, Yaoundé, était de mesurer de manière aussi détaillée que possible le niveau et le schéma selon l'âge de la mortalité avant 2 ans et de repérer certains de ses déterminants. Mais dans le contexte d'une population urbaine, la technique de l'enquête par passages répétés s'est révélée beaucoup moins précise que prévu. On a tendance à penser que les mesures effectuées sont affectées de biais. Une fois la collecte achevée, l'analyse peut cependant lui porter secours. L'auteur raisonne que l'enquête peut fournir elle-même les moyens de réévaluer les estimations de la période suivie (dans la première partie du document); et confronter ces estimations à des estimations rétrospectives, pour apprécier une convergence éventuelle (dans la seconde partie). (AU modifié)

241 **Fargues, P.** 1986. *Quelques remarques sur le calcul des quotients dans les enquêtes EMIJ-EMIS.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 106-125 (tables) IDRC-MR125f, INSAH no. 5

§ Dans la première partie de cette communication, l'auteur discute deux sortes de biais qui sont attachés à la technique de collecte des enquêtes EMIJ/EMIS : non représentativité d'un échantillon et évolution de l'échantillon. Il propose les corrections à la seconde sorte de biais. Ensuite il examine les problèmes associés au découpage dans le temps : l'âge et la saisonnalité. (F.M.)

242 **Farugee, R.** 1982. *Analyzing the impact of health services: project experience from India, Ghana and Thailand.* World Bank Staff working papers, no. 546, World Bank, Washington, US. 44 p. (tables, 56 refs.) ISBN 0-8213-0117-9

§ The authors argue that four categories of indicators are pertinent in measuring the impact of health services: environment (socioeconomic conditions and health policies); inputs (services offered); outputs (services received); and outcomes (changes in mortality, morbidity, and nutritional status). This paper reviews the findings of three major controlled experiments concerning these indicators: Narengwal in India, Danfa in Ghana, and Lampang in Thailand. The experience of three nonexperimental projects - with no control groups - are also reviewed. All projects showed that output indicators served well in indicating the impact of services. Appraisal and evaluation of health projects are still a long way from the goals of economic analysis, comparing benefits and costs. This paper shows that a beginning can be made in that direction by using outputs of health services as surrogates for outcomes. (AU modified)

243 **Feachem, R.G.** 1983. *Interventions for the control of diarrhoeal diseases among young children: supplementary feeding programmes.* Bulletin of the World Health Organization, 61(6), 967-979 (tables, 41 refs.) Fr

§ The effect of supplementary feeding programs on diarrheal disease morbidity and mortality among preschool children is reviewed using data from field studies in developing countries. The programs considered are those that provide food to preschool children on a continuing and community-wide basis. Nutritional rehabilitation of sick children and feeding programs in disasters and emergencies are not considered. The evidence that poor nutritional status predisposes to increased diarrheal disease incidence, or that supplementary feeding programs can reduce diarrheal disease incidence, is not strong. There is evidence that poor nutritional status predisposes to more severe diarrhea and to higher case fatality, and that supplementary

feeding programs can reduce the severity of the diarrhea and the mortality. However, such programs entail high costs and considerable logistic and managerial complexity and it is unlikely that they are a cost-effective intervention for national diarrheal diseases control programs. Prospective studies on the effect of nutritional status on the severity of etiology-specific diarrheas and the resulting deaths are warranted. (AU)

244 **Feeney, G.** 1980. *Estimating infant mortality trends from child survivorship data.* Population Studies, 34, 109-128 (tables, 15 refs.) ISSN 0032-4728

§ The author presents a procedure for estimating infant mortality rates from population census data on the total number of children a woman has borne and on the number of these children who are living at the time of the census. The procedure is seen as an extension of the concepts introduced by Brass and developed by Brass, Coale, Sullivan, and Trussell, but differs from these in that it results in a dated estimate of the infant mortality rate from each group of women, and it does not assume knowledge of the rate of change of infant mortality in the precensus years. Application of the procedure yields estimates of the infant mortality rate for a series of points preceding the census. (AU modified)

245 **Feierman, S.** 1979. *Health and Society in Africa: a working bibliography.* African Studies Association, Waltham, US. 210 p. (2806 refs.)

§ This bibliography focuses on the social organization of medicine. Biomedical literature is included only where this is linked to socioeconomic or environmental variables. An annotated list of bibliographies on health, which appears at the beginning, is followed by a list of 2806 entries listed alphabetically. These are not annotated. (F.M.)

246 **Fergusson, A., Leeuwenburg, J.** *Local mobility and the spatial dynamics of measles in a rural area of Kenya.* GeoJournal, 5(4), 315-322 (maps, figs., 7 refs.) ISSN 0343-2521

§ Population mobility at different scales is important in the analysis of contagious diseases. The role of local mobility among young children is related to spatial and temporal patterns of measles in Machakos District, Kenya. The dynamics of measles are examined over a period of 3.5 years, during which there were two epidemics; the path of the second of these epidemics is studied, using a spatial averaging technique (the centroid). Limited local mobility of children under the age of 5, related to low levels of susceptibility, provides a probable explanation for the slow diffusion of measles epidemics. (AU)

247 **Ferry, B.** 1981. *The Senegalese Surveys.* In Page, H.J., Lesthaeghe, R., Child-spacing in tropical Africa: traditions and change. Academic Press, London, GB. pp. 265-273 (tables, map, 10 refs.) ISBN 0-12-543620-3

§ Multiround surveys conducted in 1963-67 in the rural populations of the Sine and Saloum regions, surveys of village and semirural women in 1968-69, and a single-round survey in Dakar in 1972 provide detailed information on the constituents of fertility in rural and urban areas of west-central Senegal. Overall fertility levels do not display much variation between rural and urban areas, although substantial differences in intermediate fertility variables have been found. Age-specific fertility rates are lower in urban areas in the younger cohorts but 5-25% higher in the central ages, although rates for young women in unions are not necessarily lower. The postpartum abstinence period was very short in all study areas, and the length of the birth interval is largely a function of lactational amenorrhea. Short birth intervals tend to be viewed negatively by both the women and society in general, but use of modern contraception is extremely low in Dakar. Shorter breastfeeding in Dakar is probably reponsible for high urban marital fertility, but the difference is attenuated by higher infant and child mortality in rural areas. (POPLINE abbrev.)

248 **Fikry, M.** 1977. *Traditional maternal and child health care and related problems in the Sahel: a bibliographic study.* United States Agency for International Development, Washington. 123 p. (refs.)

§ This report of a study on maternal and child health in the Sahel, with an annotated bibliography, discusses research needs in the areas of social and cultural anthropology; traditional midwives; long-term health effects of drought; agricultural aspects of cultural factors of malnutrition; occurrence and consequences of anemia and other deficiency diseases, infectious diseases, and sterility; and taboos related to pregnancy, childbirth, and breastfeeding. (SALUS)

249 **Fisher, M.M.** 1976. *Growth of Zambian children.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 70, 426-432 (tables, fig., 10 refs.) ISSN 0035-9203

§ Severe malnutrition causes death and retards growth in many Zambian children. Because the onset of malnutrition is gradual and often escapes notice, a study aimed at identifying early recognizable signs was devised. At 1 year of age, 205 Zambian copper miners' children were measured and 163 of the original sample again at 18 months. Their mean weight, height, triceps skin-fold, arm circumference, and developmental progress were often less than expected and the slower growth corresponded significantly with lower development scores. The mid-upper-arm circumference is the easiest and cheapest measurement to make and it compares closely with other measures. Statistical data are included. (SALUS)

250 **Flegg, A.T.** 1982. *Inequality of income, illiteracy and medical care as determinants of infant mortality in underdeveloped countries.* Population Studies, 36(3), 441-458 (tables, 28 refs.) ISSN 0032-4728

§ In an analysis of the determinants of infant mortality, the author attempts to overcome problems associated with work by G.B. Rodgers, and to reexamine the hypothesis of R. Repetto that high fertility is both a cause and a consequence of high infant mortality. Possible determinants of infant mortality are considered on a priori grounds and a selection of regression results is given. An assessment is made of the sensitivity of the estimates to changes in the observations on infant mortality, the composition of the sample, and the measure of inequality employed. Limitations of the analysis are noted and policy implications drawn. Based on the results, it is suggested that countries that place a low priority on enhancing women's education and achieving a more equal distribution of incomes are unlikely to accomplish a rapid fall in their infant mortality rates. (AU modified)

251 **Flegg, A.T.** 1983. *On the determinants of infant mortality in underdeveloped countries.* International Journal of Social Economics, 10(5), 38-51 (tables, fig., refs.)

§ In this article, an attempt is made to overcome problems associated with a study by G.B. Rodgers. The role of income and inequality as determinants of infant mortality is examined on a priori grounds; the role of education and medical care is considered; and regression results are presented and discussed. An assessment is made of the sensitivity of the estimates to changes in the observation on infant mortality and the composition of the sample. Policy implications and limitations of the study are discussed. (AU modified)

252 **Fleming, A.F., Werblinska, B.** 1982. *Anaemia in childhood in the guinea savanna of Nigeria.* Annals of Tropical Paediatrics, 2(4), 161-173 (tables, fig., 50 refs.) ISSN 0272-4936

§ Fifty-nine children (29 boys, 30 girls), aged 3-36 months, with hematocrit < 0.30, were compared to nonanemic children matched for age and sex, at Zaria in the guinea savannah of Nigeria. The commonest age of presentation with anemia was 9-12 months: no ethnic group or family rank was overrepresented. Anemic children came from families with high infant and childhood mortality. Anemic children were frequently below the fifth percentiles of reference standards of weight-for-age (67%), height-for-age (48%), and weight-for-height (32%). Etiology was always multiple: anemia was associated with viral or bacterial infections (71%), malaria (62%), sideropenia (60%), folate deficiency (40%), hypoproteinemia (30%) and sickle-cell disease (25%). These factors were not merely coincidental, but the anemic children had entered a vicious cycle of infection, nutritional deficiency, and depressed immunity. Recommendations are made for laboratory investigation, prevention, and treatment. (AU abbrev.)

253 **Fleuret, P.F.A.** 1983. *Socio-economic determinants of child nutrition in Taita, Kenya: a call for discussion.* Culture and Agriculture, no. 19, (tables, 9 refs.)

§ The paper is based on a 1981 study of four Taita communities in the Taita Hills and Coast Province, Kenya, which was designed to demonstrate the relationship between the nutritional status of children and various socioeconomic variables. The findings suggest that commercialization of agriculture and involvement in wage labour are associated with substantial nutritional benefits. Some households achieve these benefits through commercial production alone, others through labour sales alone, while others do both. But apart from the landless labourers on the sisal estate, no household has forsaken production of staple foods for home consumption. Moreover, those households with substantial cash income (from sales of crops or labour) generally out-produce other households with respect to the main staples, maize and beans. This is because the money allows the financing of improved planting materials and inputs, and the use of casual labour for some cultivation processes. The primary link between cash income and better nutritional status is likely to be the increased capacity to purchase food during periods when household production is inadequate. (CAB Abstracts) *

254 **Foutaine, O., Bean, J.P., Briend, A.** 1984. *Un centre expérimental de réhydration et de réhabilitation nutritionnelle: résultats préliminaires.* Revue française de gastro-entérologie, 20(200), 15-18 (12 réf.) En ISSN 0035-2888

§ Un Centre de réhydratation et de réhabilitation nutritionnelle a été implanté à Pikine, ville de 650.000 habitants, située à 20 km de Dakar, afin de tester des techniques simples, efficaces et peu couteuses pour traiter la diarrhée et la malnutrition chez les enfants de moins de 5 ans. La réhydratation par voie orale à l'aide d'une solution à base de farine de riz et la renutrition avec des mélanges nutritifs fabriqués localement associées à un traitement médicamenteux standard ont permis d'obtenir des résultats très encourageants. En effet pour les 73 enfants deshydratés et malnutries qui ont bénéficié de ce traitement le gain de poids a été en moyenne de 10 g/kg poids par jour. Ces premiers résultats montrent donc qu'il est possible de traiter efficacement des enfants diarrhéiques et malnutries dans des structures de soins très simples et pour un faible prix de revient. (AU)

255 **Foster, S.O.** 1984. *Immunizable and respiratory diseases and child mortality.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 119-140 (tables, 71 refs.)

§ For each of the diseases, neonatal tetanus, pertussis, measles, and acute respiratory infection, the author discusses mortality rates, mortality risk factors, the availability, feasibility, acceptability, and effectiveness of prevention. It is argued that the relationship between disease treatment and prevention is not well understood and that research is needed in this area before more effective interventions can be implemented. Data are drawn from a wide spectrum of countries in Africa and Asia. (F.M.)

256 **Fox, E.** 1984. *La santé de l'enfant au Rwandu rural: influences économiques et socio-culturelles.* Courrier - Centre international de l'enfance, 34(5-6), 525-528 (table, fig., 8 réf.) En ISSN 0538-5482

§ L'auteur souligne que, dans un grand nombre de pays, il y a une inadaptation entre les systèmes de santé actuels et les particularités socio-économiques et sanitaires des communautés auxquelles sont destinées ces systèmes. L'enquête a été réalisée auprès des 50 mères dans l'hôpital et la région de Nemba au Rwanda. On a analysé chez ces femmes, les conditions socio-économiques, l'histoire des grossesses et les rapports entre le niveau socio-économique et le nombre de conceptions arrivant à maturité. On souligne, enfin, que toute modification dans la constance du nombre d'enfants vivants dans les familles rurales altérait profondément la situation existante et nuirait aux actions sanitaires entreprises. (AU)

257 **Franklin, R.R., Bertrand, W.E., Mock, N.B., Nkamany, K., McCaw, A.** 1983. *Feeding patterns of infants and young children in Kinshasa, Zaire.* Journal of Tropical Pediatrics, 28, 255-259 (tables, figs., maps, 9 refs.) ISSN 0142-6338

§ A 24-hour qualitative dietary recall survey of the children of 1155 women of lower socioeconomic class in Kinshasa, Zaire, was performed. Over 80% were still breastfed at 13 months of age and 50% at 16 months. Bottle feeding was seen in less than 40% of any age group and was rare after 14 months. Bottle feeding was accompanied by breastfeeding approximately 90% of the time and was not found to be statistically associated with the cessation of breastfeeding. Other dietary patterns are described. (AU)

258 **Franklin, R.R., Dikassa, L.N., Bertrand, W.E.** 1984. *The impact of oedema on anthropometric measurements in nutritional surveys: a case study from Zaire.* Bulletin of the World Health Organization, 62(1), 145-150 (tables, 25 refs.) Fr

§ Six surveys for protein-energy malnutrition were carried out in sequence in Bas-Zaire, beginning at the end of 1978 at the estimated height of the famine and continuing throughout the recovery period. Utilizing a stratified multistage sampling technique, over 1000 children aged 6 months to 6 years were measured anthropometrically and examined for the presence or absence of bilateral pedal edema in each survey. The proportion of children who were less than 80% of the reference median weight-for-height and who had edema decreased, respectively, from 12.8% and 14.4% initially to 2.1% and 1.8% in the final survey. The proportion of edematous children who were found to be not less than 80% of the reference median weight-for-height was high, varying from 71.7 ± 7.0% to 94.4 ± 10.6%. The importance of these findings for the interpretation of anthropometric data from nutritional surveys in developing countries is discussed. (AU)

259 **Franklin, R.R., Bertrand, W.E., Nkamany, K., Rico-Velasco, J.** 1984. *A cross sectorial study of wasting and stunting in Kinshasa, Zaire.* Annales de la Société belge de médecine tropicale, 64, 403-411 (map, tables, 12 refs.)

§ A population-based systematic sample of nearly 27,000 children under 5 years of age was studied in three zones of Kinshasa, Zaire. Anthropometric measurements revealed high rates of nutritional wasting, stunting, and underweight children that varied by zone, age, and date. Possible explanations for the variations are offered and comparisons are made with other studies in urban areas of sub-Saharan Africa. (AU)

260 **Freij, L., Sterky, G., Wadstrom, T. , Wall, S.** 1978. *Child health and diarrhoeal disease in relation to supply and use of water in African communities.* Progress in Water Technology , 11(1), 49-55 (tables, figs., 15 refs.)

§ In a 1972-73 and 1974-75 survey of acute morbidity in 749 children from Addis Ababa, Ethiopia, it was found that children aged less than 2 years were ill with diarrhea for an average of 2 months each year. Personal hygiene and quantity of water were the most significant predictors of the disease. Later etiological studies yielded putative agents, mainly rotaviruses, in 60% of the children who were ill during the rainy season. Both wells and river water were contaminated with *Entamoeba coli*, indicating that African waters have unique characters as sources of infection. Intermediate technologies and community involvement are seen as the best solutions. (SALUS)

261 **Freij, L., Meeuwisse, G.W., Berg, N.O. , Wall, S., Gebre-Medhin, M.** 1979. *Ascariasis and malnutrition: a study in urban Ethiopian children.* American Journal of Clinical Nutrition, 32(7), 1545-1553 (tables, 49 refs.)

§ To determine the relationship between ascariasis and childhood malnutrition, two studies were conducted of Ethiopian children aged less than 5 years in Addis Ababa. Although infection with ascariasis may result in malnutrition, in which case treatment of symptomatic ascariasis is justified, it is doubtful whether large-scale deworming programs have a beneficial nutritional effect at the community level. The studies showed no evidence of improved nutritional status following treatment for ascariasis in areas where both malnutrition and ascariasis were highly prevalent, but the general worm load was low. The author warns against allocating scarce child health care resources to deworming campaigns in such situations. Statistical data are included. (SALUS)

262 **Frost, O.** 1984. *Maternal and perinatal deaths in an Addis Ababa Hospital.* Ethiopian Medical Journal, 22(3), 143-146 (tables)

§ This paper presents data on perinatal and maternal deaths in a hospital in Addis Ababa in 1980. A total of 3936 infants were delivered to 3868 women during this period. The stillbirth rate was 52.6, the perinatal mortality rate was 8.6, and the maternal mortality rate was 7.8 per 1000. Of the 207 stillbirths, 44.5% were unexplained, 31.9% were due to mechanical causes, 26.4% resulted from pregnancy complications, and 7.3% were due to intrapartum death. There was no obvious pathology in 38 of the 84 neonatal deaths. The remaining cases were due to conditions such as intrapartum asphyxia, antepartum hemorrhage, septicemia, and congenital abnormalities. Ten of these deaths involved preventable factors. Of the 30 maternal deaths, 13 were due to sepsis, 9 to hemorrhage, 4 to surgical conditions, 3 to medical conditions, and 1 to eclampsia. Inadequate monitoring of shocked patients and the nonavailability of blood transfusions contributed to some of these deaths. Although socioeconomic and cultural factors play a role in perinatal and maternal mortality, coordinated maternity services could produce short-term improvements. Such maternity services should embrace both primary care, with an emphasis on the training of traditional birth attendants and health assistants, and high-risk care. (POPLINE modified)

263 **Fulton, D., Randall, S.C.** 1984. *Households, women's roles and prestige*

as factors determining nuptuality and fertility differentials in Mali. IUSSP Seminar on Micro-Approaches to Demographic Research, Australian National University, Canberra, 3-7 Sep. 1984. 19 p. (tables, figs., 9 refs.)

§ In the context of examining the causes of different fertility patterns between the Bambara (sedentary agriculturalists) and the Kel Tamasheg (nomadic pastoralists), the authors use a micro approach to investigate further the finding of a single-round survey that indicated different fertility and mortality profiles between the two groups, despite similarities in length of breastfeeding, lactational amenorrhea, postpartum abstinence, and lack of modern contraception. Through a case history approach, the authors focus on values, attitudes, and expectations, and how these operate in the context of decision-making at the levels of individuals and households. They argue that in searching for causative factors of fertility levels and of decisions and societal institutions related to them, it is necessary to separate those constraints that act on the population as a whole from those that affect the decisions of individuals or households. They emphasize in particular the interests and options open to women vis-à-vis men in each society in terms of fertility. In conclusion they draw attention to the value of combining demographic and anthropological techniques in analyses of processes of demographic and economic change. (F.M.)

264 Gaisie, S.K. 1975. *Levels and patterns of infant and child mortality in Ghana.* Demography, 12(1), 21-33 (tables, 16 refs.)

§ This paper attempts to measure infant and child mortality levels and also to determine their structure by utilizing the results of the 1968-69 National Demographic Sample Survey which was conducted under the directorship of the author. Among the major problems encountered in the exercise are the adjustment of the current raw mortality data and the estimation of infant and child mortality from independent source material. The estimated infant mortality rates range from 56 per 1000 live births in the Accra Capital District to 192 in the Upper Region during the late 1960s. The urban rate is lower than the rural rate, 98 as against 161 per 1000 live births. A large proportion of the deaths among children aged 0-4 occur in the second year of life, and deaths in this age group account for the bulk of the deaths within the age group 1-4 years. (AU)

265 Gaisie, S.K. 1976. *Estimating Ghanaian fertility, mortality and age structure.* Population Studies, no. 5, Population Dynamics Programme, University of Ghana, Legon, GH. 209 p. (tables, figs., map, 153 refs.)

§ The study attempts to estimate vital rates and other demographic parameters such as age and sex structure of fertility and mortality, for Ghana. The estimate is based on data obtained from the National Demographic Sample Survey undertaken in 1968-69 involving both a survey and vital registration system carried out concurrently. Mortality and fertility are very high - the crude death rate is 12.3 for the total country while the crude birthrate is 46.8. Both mortality and fertility vary from region to region, and are higher in rural than in urban areas. Infant mortality is 113 per 1000 live births. These measures are estimated using a number of procedures such as the Coale and Demeny model life tables and Brass techniques. (PIDSA abbrev.)

266 Gaisie, S.K. 1980. *Some aspects of socio-economic determinants of mortality in tropical Africa.* Population Bulletin of United Nations, 13, 16-25 (27 refs.)

§ Mortality is one of the major determinants of population growth and the modern drive to decrease the death rate is being blamed for the rapid expansion of population in tropical Africa. Yet measurements of mortality levels and trends are still inadequate in that region of the world, largely due to the lack of reliable and adequate information on deaths. A series of estimates depicting mortality levels and trends has been prepared by demographers, using different kinds of data and estimation procedures; nevertheless, knowledge about the true structure of mortality in tropical Africa is virtually nonexistent. A very limited number of concrete studies have been conducted in respect of determinants of mortality in tropical Africa. Thus, one can scarcely do justice to such a wide topic. In view of these difficulties, what is presented is a bird's eye view of the prevailing situation in tropical Africa, most of the discussion being based on secondary and fragmentary data. The article discusses mortality by sex and age, by residence, and by cause. It also discusses socioeconomic and cultural determinants of mortality. (AU)

267 Gaisie, S.K. 1981. *Mortality, socio-economic differentials and* *modernization in Africa.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 441-463 (23 refs.) ST/ECA/SER.A/1

§ Cognizant of the lack of data on mortality and socioeconomic differentials on which to base generalizations, the author draws on case studies to survey mortality in Africa. Topics covered include sustained mortality decline in Africa from the 1950s when life expectancy was estimated at 30-40 years to 45 years for the 1970-1975 period; in the context of high annual rates of growth, the high proportion of children under the age of 15 years (44% in East and West Africa); declining mortality which is largely due to the control of infectious diseases through vaccination programs and access to antibiotics; mortality differentials which are sex and age specific (the author draws attention to high rates of infant and child mortality); mortality differentials which vary according to urban or rural residence and socioeconomic status. Maternal education is singled out as significantly and negatively correlated with infant and child mortality. (F.M.)

268 Gaisie, S.K. 1984. *The proximate determinants of fertility in Ghana.* WFS scientific reports, no. 53, International Statistical Institute, Voorburg, NL. 63 p. (tables, figs., 12 refs.)

§ Findings from the analysis of the Ghana Fertility Survey (GFS) 1979-80 are reported. The GFS was based on a two-stage self-weighting sampling design that was intended to yield a minimum sample size of 7500 households of which 7208 were selected for interviewing. The total enumerated population was 28,671, comprising 13,987 males and 14,684 females with 42.8% of the latter aged 15-49. The GFS adopted both the World Fertility Survey core questionnaire and the revised version of the module. The data collected with the module include information of birth intervals, duration of breastfeeding, postpartum amenorrhea and abstinence, temporary absences of spouses, menstruation characteristics, and contraceptive use. These data, together with the respondents' background information such as place of residence, education, ethnic origin, and maternity and marriage history, provide the basic materials for this study. The analysis of the intermediate variables is organized around four main themes: starting patterns of family formation and their proximate determinants; birth spacing patterns and their proximate determinants; stopping patterns of family formation and their proximate determinants; and contribution of each of the major intermediate fertility variables to overall fertility levels and differentials. (POPLINE abbrev.)

269 Gallais, H., Taleb-Assad, Kadio, A., Odehouri, K., Cornet C. 1981. *La rougeoie à Abidjan : à propos de 500 cas.* Bulletin de la Société de Pathologie Exotique, 74(3), 283-292 (tables, 10 réf.) En ISSN 0037-9085

§ L'étude de 500 rougeoleux hospitalisés en 3 mois met en évidence les facteurs de gravité de cette affection en Afrique tropicale. Il s'agit de la consultation tardive, de la malnutrition et du très jeune âge des malades. L'antibiothérapie systématique (correctement choisie) permet de diminuer notablement la mortalité. (AU)

270 Garenne, M., Cantrelle, P. *Eléments pour une analyse des facteurs de la mortalité infanto-juvénile.* Cahiers ORSTOM - Série Sciences Humaines, 20(2), 311-320 (table, fig., réf.) En, Es ISSN 0008-0403

§ L'article constitue un essai de développement de modèles explicatifs de la structure par âge de la mortalité. L'auteur passe en revue les facteurs de la mortalité des enfants, en opposant les facteurs d'exposition au risque aux facteurs de résistance de l'hôte; s'y ajoutent les connaissances en thérapeutique. Puis, il cherche un indicateur de la structure de la mortalité des enfants qui soit calculable à partir de tables de mortalité existantes : $RCIM = (4 + c5 - c1)/(1 + c1 - c0)$. Cet indicateur sert de variable dépendante dans un modèle de régression linéaire où entrent comme variables explicatives le niveau de mortalité, le sexe, le climat, le temps et le revenu. Les résultats indiquent que le facteur principal de la structure par âge de la mortalité des enfants est le niveau de mortalité; la mortalité des deux sexes apparait comme identique entre 1 et 5 ans, toutes choses étant égales par ailleurs; le modèle met en évidence un important effet de climat sur RCIM, les deux autres variables ont un effet faible ou négligeable. (AU)

271 Garenne, M. 1981. *The age pattern of infant and child mortality in*

Ngayokheme (rural West Africa). African demography working papers, no. 9, Population Studies Center, University of Pennsylvania, Philadelphia, US. 37 p. (tables, figs., 61 refs.)

§ Based on analysis of data collected annually for the period December 1962 to December 1973 for Ngayokheme, Senegal, the following pattern of infant and child mortality is indicated: a rise in the force of mortality after 6 months, peaking at about age 1 year; a smaller than expected decline from 12 to 36 months with a local rise in the second part of the third year of life; at other ages, a strong and regular decline in the force of mortality. Drawing on a discussion of the relative significance of breastfeeding patterns, nutrition, the epidemiological environment, and cultural factors in determining the unusual pattern of mortality, the author concludes that the force of mortality from 6 to 12 months increases because of new exposure to the risk of infection and the loss of passive inmmunity; a slow decline in mortality between 12 and 36 months is caused by the prevalence of malaria; a higher risk period occurs after weaning; the rainy season is associated with a strong concentration of deaths. The policy implications of the findings are noted. (F.M.)

272 **Garenne, M.** 1982. *Problems in applying the Brass method in tropical Africa: a case study in rural Senegal.* Genus, 38(1-2). Paper presented at the IUSSP seminar on methodology and data collection in mortality studies, Dakar, SN, 7-10 July 1981. pp. 119-134 (tables, 27 refs.) It, Fr ISSN 0016 6987

§ The author compares Brass-type estimates of infant and child mortality to values observed directly through a follow-up survey in Sine Saloum (rural Senegal). The author shows that several parameters other than the fertility schedule have a great impact on the multipliers: age pattern of mortality, age misreporting, and undercounting of dead children. Furthermore, he contests the use of presently available sets of multipliers in tropical Africa. He concludes that at this level of knowledge one cannot expect accurate estimates of infant and child mortality from questions on survival of children in tropical Africa. (AU)

273 **Garenne, M.** 1982. *Variations in the age patterns of infant and child mortality with special reference to a case study in Ngayokheme (rural Senegal).* University Microfilms International, Ann Arbor, US. 247 p. (tables, figs., 177 refs.)

§ Risks of death below age 5 vary widely across human populations. This thesis investigates some environmental factors of, and sex differences in, the age pattern of mortality in infancy and childhood and analyzes the impact of this age pattern on Brass multipliers. The first chapter, based on a study of 456 national life tables, reviews variations in the pattern of mortality as it is affected by level of development, climate, and sex composition of the population. An index of the pattern of infant and child mortality is defined: RCIM, the ratio of child to infant mortality = (4 + c5 - c1)/(1 + c1 - c0). Life expectancy is shown to be a major predictor of RCIM; populations with high mortality show higher child mortality relative to infant mortality. Climate also has a strong impact on RCIM, with tropical areas having the highest ratio for any given life expectancy. Finally, females have a higher ratio than males as a result of their lower infant mortality. The relationship between the distribution of death by cause and regional pattern of mortality in 21 high-mortality populations. However this analysis is largely inconclusive because of the inaccuracy of data on causes of death. A second part of the dissertation is an in-depth investigation of a rural area of Senegal (Ngayokheme). The pattern of mortality exhibits an outstanding tropical pattern, with extremely high child mortality. The major discrepancy between this and other patterns is the extremely high death rate at 18-35 months. Although this is the weaning period, there is no evidence that mortality is higher just after weaning. Mortality is also very high between 6 and 18 months and is related to a high prevalence of malaria. The study compares two periods (1963-71 and 1972-81) during which mortality below age 5 declined dramatically; however pattern of mortality is shown to remain the same. (AU abbrev.)

274 **Garenne, M., Diop, I.L., Cantrelle, P.** 1983. *Politique de santé et mortalité au Sénégal.* Proceedings of a social policy, health policy and mortality prospects meeting, Paris, FR, 28 Feb. - 4 March 1983. 33 p. (tables, cartes, réf.)

§ Le Sénégal connait une forte mortalité, marqué par une profonde dichotomie entre le milieu urbain relativement favorisé et le milieu rural encore largement démuni. La mortalité infantile semble être restée stable

entre 1960 et 1978 tant en milieu rural qu'en milieu urbain, même à Dakar. Le faible impact des politiques de santé sur la baisse de la mortalité peut s'expliquer de plusieurs manières. Tout d'abord, même si d'importants moyens ont été mis en oeuvre, ceux-ci n'aient n'ont qu'à peine suivi la croissance démographique, sauf en ce qui concerne les ressources humaines qui ont augmenté sensiblement plus vite. De même le revenu per capita n'a pas augmenté au cours de la période. A cela a pû s'ajouter un effet de sélection : du fait de la concentration dans les villes des principaux outils de santé il est vraisemblable que ceux-ci n'aient été utilisés que par la couche de la population la mieux informée et la plus fortunée, celle donc qui avait un risque minimal de mortalité. Cet effet de sélection pourrait expliquer le faible impact des vaccinations. C'est aussi par une insuffisance de couverture que la lutte antipalustre n'a pu aboutir à une éradication. La difficulté à assurer une couverture complète dans l'espace et dans le temps à la fois de la faiblesse des moyens mis en oeuvre et des problèmes logistiques particuliers au pays : extrême dispersion de petits villages, communication difficiles, manque d'information de la population. (AU modifié)

275 **Garenne, M., Vimard, P.** 1984. *Un cadre pour l'analyse des facteurs de la mortalité des enfants.* Cahiers ORSTOM - Série Sciences Humaines, 20(2), 305-310 (fig., réf.) En, Es ISSN 0008-0403

§ L'analyse des facteurs de la mortalité des enfants, de leurs effets directs comme de leurs interactions, est un sujet complexe de par le nombre et la nature multiple de ces variables. Afin d'aider l'élaboration de plan d'enquête et de modèle explicatif, les auteurs présentent un cadre général pour l'élaboration de schéma d'analyse de ces facteurs. Ce cadre distingue cinq groupes de variables : les variables discriminantes, indépendantes, intermédiaires, déterminantes et dépendantes, qui correspondent aux différents niveaux d'analyse et d'explication. Une présentation, non exhaustive, des variables entrant dans chacun des groupes et de leurs relations essentielles est faite. Enfin les principaux effets des facteurs étudiés lors des études de cas, concernant des pays en développement et rassemblées dans ce volume, sont commentés à partir du cadre d'analyse proposé. (AU)

276 **Garenne, M., Van de Walle, F.** 1985. *Knowledge, attitudes and practices related to child health and mortality in Sine-Saloum, Senegal.* In International Population Conference, Florence, IT, 5-12 June 1985, 4 . International Union for the Scientific Study of Population, Liège, BE. pp. 267-277 (6 refs.) Fr ISBN 2-87108-009-9 ISSN 0254-5217

§ This paper examines parental knowledge of diseases and maternal care and concern about child health on the basis of taped interviews with women in the Kaolak region of Senegal. Among the topics discussed are traditional views of health and sickness, explanations of the mechanism of disease transmission, attitudes toward modern medicine, the impact of health campaigns and radio broadcasts, and the changes that are taking place in knowledge and medical practices. (AU abbrev.)

277 **Garenne, M.** 1986. *Les concepts de l'analyse longitudinale et ses implications pour la collecte des données : exemple de l'utilisation de questionnaires informatisés pour améliorer l'enregistrement des décès précoces au Sénégal en milieu rural (Niakhar).* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 87-105 (tables, 26 réf.) IDRC-MR125f, INSAH no. 5

§ Le but de cette communication est de revenir sur les concepts qui sous-tendent les études prospectives et de montrer les implications que ces concepts peuvent avoir sur la collecte des données ainsi que les problèmes pratiques que cela pose. L'ORSTOM a accumulé une série d'expériences originales en matière de collecte en Afrique tropicale et les récents développements de nouvelles enquêtes au Sénégal ont permis d'améliorer les techniques de collecte, en particulier en utilisant les possibilités offertes par les micro-ordinateurs. (AU)

278 **Garrett, N.R.** 1981. *A study of feeding practices in hospitalized Cameroonian children.* Journal of the National Medical Association, 73(7), 625-633 (tables, 32 refs.)

§ The association between feeding method and sociomedical characteristics was studied in 365 children aged 0-47 months who were hospitalized in Yaoundé, Cameroon. A small majority of unweaned children were breastfed (51%); over half of all children had received a bottle feeding at less than 1 month of age. Bottle-fed children had a higher incidence of dehydration and malnutrition. Multiple regression analyses revealed a negative association between breastfeeding and employment, student status, insufficient or "bad" milk, poor health, known source of information on artificial milk, and child's age; a positive association was shown with traditionalist societies, mother's age, and good health. Breast and mixed feeding added increments of 0.915 kg and 0.419 kg, respectively, to weights of bottle-fed children. Bottle feeding was positively associated with less traditionalist groups, illness of mother, diarrhea in the child, "bad" milk, or insufficient maternal milk. Health personnel were the most common sources of advice on milk and its preparation. (AU)

279 **Garrett, N.R., Ada, V.** 1982. *Infant feeding, beliefs and practices: a study of Cameroonian health care personnel.* Journal of Tropical Pediatrics, 28(4), 209-215 (tables, 22 refs.) ISSN 0300-9920

§ The association between personal infant feeding practices and beliefs and related professional advice given to mothers was studied in 123 health and social service personnel in three urban centres of Cameroon. The results are discussed and presented as statistical data. Breastfeeding exclusively was related negatively to higher education and birth order and positively to older age. Most mothers breastfed for the welfare of the child but only 10% of health personnel advised breastfeeding when first asked for advice. Only 4% of children were entirely bottle-fed. Mother's employment and insufficient breast milk were the most common reasons for bottle feeding. One brand of baby food was recommended 59% of the time; advice on preparation was verbal rather than practical. These findings may be useful for design of training curricula and analysis of policies for baby food preparation. (SALUS)

280 **Garssen, J.** 1984. *Méthodes de calcul des taux de mortalité infantile sur la base des données de l'Enquête sur la mortalité infantile et juvénile de Yaoundé.* Document préparé pour la quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile (EMIJ), Yaoundé, CM, 19-23 Nov. 1984 . 20 p. (tables, réf.)

§ L'auteur discute deux inconvénients importants de la méthodologie d'une enquête suivie (EMIJ) à Yaoundé de Janvier 1978 à Janvier 1981. L'EMIJ a pour objectif principal d'obtenir un aperçu du niveau de la structure de la mortalité avant 2 ans. Les deux inconvénients sont la non-représentativité de l'échantillon de départ, et l'effet perturbateur des pertes, probablement non-représentatives, d'observation pendant la période de deux années. L'étude présente s'efforce, après une présentation des méthodes usuelles de calcul, d'appliquer quelques corrections sur les taux de mortalité infantile. (AU modifié)

281 **Garssen, J.** 1984. *Estimation de la complétude de l'enquête sur la mortalité infantile à Yaoundé.* Document préparé pour la quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1984. 46 p. (tables, fig., 11 réf.)

§ La couverture de l'Enquête sur la mortalité infantile et juvénile à Yaoundé (EMIJY) est estimée approximativement par le rapport du nombre de naissances enregistrées par l'EMIJY et provenant des femmes résidant à Yaoundé, au nombre estimé de naissances pendant l'année 1978 pour le même groupe de femmes. On étudie la répartition par âge et les erreurs de déclarations d'âge parmi les femmes impliquées dans l'échantillon. Ensuite on étudie la complétude de l'enquête en calculant les proportions des femmes exclues de l'échantillon à cause de la durée limitée de l'enquête et de la méthode d'échantillonage. (AU abrégé)

282 **Garssen, J.** 1984. *Analyse descriptive des rapports entre quelques variables biologiques, démographiques et socio-économiques, et la mortalité infantile à Yaoundé.* Document préparé pour la quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1984. 153 p. (tables, fig., réf.)

§ L'étude, d'une part, porte sur les relations entre les variables biologiques, démographiques et socio-économiques et la mortalité infantile et, d'autre part, constitue une étape préliminaire en vue d'une analyse à plusieurs variables. Les données proviennent d'une enquête à passages successifs menée à Yaoundé, à partir des registres de naissances établies dans des maternités pendant une période de deux ans. Parmi les variables analysées, notons : les variables biologiques et démographiques (âge de la mère à l'accouchement, état matrimonial, nombre d'enfants nés vivants, nombre de mort-nés, nombre d'avortements ou de fausses couches); les variables socio-économiques (niveau d'instruction du père et de la mère, scolarisation de l'un et l'autre, profession de l'un et l'autre, revenu du ménage, approvisionnement en eau du logis). (F.M. traduit)

283 Gassé 1984. *Enquête sur la morbidité et la mortalité dues aux maladies diarrhéiques dans le district de Bata (République de Guinée Equatoriale).* Le Bulletin de Liaison et de Documentation, Hors série XVe conférence technique de l'OCEAC, Yaoundé, CM, 19-23 Nov. 1984. pp. 67-70 (tables, 4 réf.)

§ Le but de cette enquête était d'obtenir le taux de morbidité et le taux de mortalité des maladies diarrhéiques chez les enfants de moins de 5 ans. La technique utilisée a été préconisée par l'OMS à savoir celle du sondage au hasard par grappe. L'enquête a porté sur 822 enfants en trois zones : la zone cotière, l'intérieur et la ville de Bata. L'auteur discute les résultats et conclut que la gravité du problème demande un programme national de lutte contre les maladies diarrhéiques. (AU modifié)

284 Geber, M. 1977. *Développement des nouveau-nés africains.* Courrier, 27(5), 425-434 (tables, 9 réf.) En

§ Après avoir examiné quelque 310 nouveau-nés en Ouganda, en Zambie et au Togo, habituellement un ou deux jours après la naissance, l'auteur a remarqué que les nourrissons issus de familles plus aisées se distinguaient considérablement des autres pour ce qui est du poids ou de la motricité. Des différences prononcées ont été observées entre les nouveau-nés issus de familles pauvres d'Ouganda et de Zambie : les enfants zambiens avaient des poids plus faibles et des réactions motrices moins vives. Le milieu a joué un rôle important dans ces résultats. Les femmes ougandaises qui avaient un mode vie plus traditionnel vivaient dans des petits villages et étaient bien nourries alors que les femmes zambiennes parties pour la ville étaient mal logées, souffraient de malnutrition et étaient privées de l'aide de leurs familles et de leurs villages. (SALUS traduit)

285 Gemert, W., Slooff, R., van Ginneken, J.K., Leeuwenburg, J. 1984. *Household status differentials and childhood mortality.* In van Ginneken, J.K., Muller, A.S., Maternal and child health in rural Kenya: an epidemiological study. Croom Helm, London, GB. 271-280 (tables, 6 refs.) ISBN 0-7099-2608-1

§ As part of the Machakos Project study the authors discuss the results of the statistical analysis of data collected from research on the mortality of children under the age of 5 years. The analysis is based on risk ratios differentiated by age in relation to the household economy and social and hygiene conditions. In general, the findings indicate that household status and childhood mortality are inversely related, a situation that is evident despite the relatively homogeneous study population. The most significant associations are between household status (measured by five composite components: agricultural potential, health, modern orientation, hygiene, family structure) and deaths resulting from malnutrition. This was followed by associations with deaths due to fever and convulsions, first-week deaths, gastroenteritis, measles, respiratory infections, and pertussis. The authors note that the household variables themselves are not necessarily causes of mortality but rather that mortality depends on intervening variables such as the nature of the disease, parental knowledge and motivation, and access to health services, for none of which are many data available. Policy implications are drawn. (F.M.)

286 Gendrel, D., Akaga, R., Ivanaff, B., Okouoyo, E., Nguemby-Mbina, C. 1984. *Gastroenterites aigues et allaitement maternel au Gabon.* Médecine Tropicale, 44(4), 323-325 (tables, 11 réf.) En ISSN 0025-682X

§ Dans la région de Haut-Ogooué (Gabon), 76 enfants diarrhéiques âgés de 15 jours à 24 mois ont eu un examen de selles (recherche de rotavirus et de bactéries entéropathogènes) et ont été classés selon le mode d'alimentation. Les premiers résultats indiquent un rôle protecteur important de l'allaitement maternel envers les rotavirus et les principales bactéries entéropathogènes, le lait de mère favorisant vraisemblablement l'élimination plus rapide de l'agent pathogène. (AU)

287 George, T.I. 1981. *Polygamy: cultural trait and maternal and child health.* Journal of Advanced Nursing, 6(3), 215-220 (figs., tables, 18 refs.) ISSN 0309-2402

§ The author observes that polygamy, as practiced within a particular Ashanti village

ecosystem in West Africa, positively contributes to child health by spacing pregnancies, promoting breastfeeding, and preventing kwashiorkor and severe malnutrition. Data on five generations of six polygamous and six monogamous families indicate that monogamous women had more children (7.8) than polygamous women (4.1); that kwashiorkor and malnutrition were highly prevalent among children of monogamous women and nonexistent among the children of polygamous women; but that child mortality was higher for polygamous than for monogamous mothers, probably because of the latters' proximity to the mission hospital. (SALUS)

288 **Gesler, W.M.** 1979. *Morbidity measurement in household surveys in developing areas.* Social Science and Medicine, 13D(4), 223-226 (tables, 7 refs.)

§ The accuracy of morbidity measurement in household surveys in developing areas is affected by various local constraints. This report discusses an attempt to meet the constraints imposed on the illness section of a survey conducted in the target area of the Family Health Clinic in Calabar, Nigeria. A list of symptoms was drawn up to elicit data on the illnesses mothers and their children under 6 experienced in a 2-week period. Several criteria were kept in mind when constructing this list. It was recognized that both interviewers and respondents had relatively low levels of education. It was also felt that responses should reflect both local morbidity patterns and ailments commonly treated at the Family Health Clinic. Another criterion was that the data should be suitable for statistical testing. Following the survey, the symptoms were classified as general, digestive, or respiratory. The illness item in the survey questionnaire was checked for reliability and validity. (AU)

289 **Gesler, W.M., Webb, J.L.** 1983. *Patterns of mortality in Freetown, Sierra Leone.* Singapore Journal of Tropical Geography, 4(2), 99-118 (tables, figs., maps, 23 refs.)

§ Using mortality data collected from the death registers of Freetown, Sierra Leone, for the census years 1963 and 1974, the authors investigated the recent demographic history of Freetown; the spatial distribution of crude mortality rates in 1974; possible factors associated with high and low mortality rates; age- and sex-specific mortality rates in 1963 and 1974; leading causes of death in 1963 and 1974; the relationship of age to cause of death; the spatial distribution of certification rates in 1974; and the relationship of age and cause of death to certification rates. The findings are discussed and policy implications drawn. (AU modified)

290 **Ghana, Central Bureau of Statistics, World Fertility Survey,** 1983. *Ghana Fertility Survey 1979-1980. First Report. Volume I: Background, methodology and findings. Volume II: Statistical tables.* Central Bureau of Statistics, Accra, GH. I 187 p. II 335 p. (tables)

§ In common with other fertility surveys carried out in collaboration with the World Fertility Survey, data collected provide the basis for the analysis of a range of interrelated topics. In volume I of the Ghana fertility survey report, after a discussion of methodology, the preliminary results on levels, trends, and differentials of fertility are discussed as follows: nuptiality; the relationship between fertility and child mortality; preferences for number and sex of children; knowledge and use of contraception; and noncontraceptive factors affecting fertility, including breastfeeding. Volume II contains the tables on which the analysis is based. (F.M.)

291 **Ghana, University of, California, University of,** 1979. *The Danfa comprehensive rural health and family planning project. Ghana: final report.* University of Ghana, Medical School, Accra, GH, and University of California, School of Public Health, Los Angeles, CA, US. 587 p. (tables, maps, ill., refs.)

§ The Danfa project was initiated in 1970 with the opening of the Danfa Health Centre as part of a demonstration rural family health program whose final purpose was to lead to the more rational allocation of health services in rural areas. The project included: a research design that allowed for the comparison of alternative strategies in four areas of the Danfa region; the collection and analysis of data on the health status of the population (including maternal mortality, child mortality, nutritional status; the incidence of malaria, measles, pertussis, diarrhea, poliomyelitis, tuberculosis, guinea worm; and environmental factors including water supply); the design and implementation of a health care delivery system which included the operation of a health centre and satellite services, health education, a nutrition program, improved environmental sanitation, training of traditional birth attendants, a vaccination program, a village health worker program; evaluation procedures; family planning services; and the strengthening of the University of Ghana Medical School's institutional capability. Detailed recommendations for future health programs are given. (F.M.)

292 **Goldberg, H.I., M'Bodji, F.G.** 1985. *Birth intervals and undernutrition in rural Senegal.* In International population conference, Florence, IT, 5-12 June 1985 1985, 2. International Union for the Scientific Study of Population, Liège, BE. pp. 67-78 (tables, 9 refs.) Fr ISSN 0254-5217

§ The mechanisms which mediate between short birth or pregnancy intervals and increased levels of early childhood morbidity in developing countries have not been fully explored. In this analysis, an attempt is made to determine whether short birth intervals are associated with the probability of undernutrition in young children. The data used for the analysis are from a 1982 Sine-Saloum Family Health Survey conducted in the rural areas of one region of Senegal. Linear logistics regression was used to determine if an association between the length of birth intervals and nutritional status was observable when other potentially relevant variables were taken into account. A highly significant relationship was found between short preceding birth intervals (less than 2 years) and chronic undernutrition (low height-for-age), overall and within most population subgroups. Unexpectedly, an equally strong association was revealed between long following intervals and chronic undernutrition virtually throughout the population. No relationship was found between interval length and acute undernutrition (low weight-for-height). That children born at the end of short intervals tend to be of poor nutritional status is possibly a cause-and-effect relationship. One possible reason for the generally poor status among children born at the beginning of a long interval stems from their mothers being of poor health or low nutritional status and thus having long intervals between live births as well as babies who have suffered from untrauterine growth retardation. (AU)

293 **Gomes, M.** *Family size and educational attainment in Kenya.* Population and Development Review, 10(4), 647-660 (tables, figs., refs.) ISSN 0098-7921

§ Empirical studies have consistently shown a negative relationship between a child's education attainments and family size. This paper reexamines the link in light of new empirical evidence for Kenya. In addition, it looks at the effect of a rising private rate of return to education on parents' distribution of educational investment resources among offspring. The analysis shows a positive relationship between family size and years of schooling completed. One conclusion suggested by these results is that extension of formal schooling cannot be considered as a straightforward policy instrument for reducing family size in Kenya. (AU)

294 **Gonza'les Casanova, P.H.** 1982. *The economic determinants of "protein-energy malnutrition": an historical approach with an African example (three districts in the Republic of Kenya). "Preliminary" evidence and hypotheses.* In Tukei, P.M., Njogu, A.R., Current medical research in eastern Africa.

Proceedings of the third KEMRI/KETRI annual medical scientific conference, Nairobi, KE, 1982. pp. 211-227 (tables, figs., map, 33 refs.)

§ On the premise that economic factors are the main determinants of nutritional status, the author develops an historical model to analyze the relationship between mode of production and protein-energy malnutrition. Data collected in 1979-80 on the nutritional and socioeconomic status of 878 children, aged 0-60 months, from 546 households in Trans-Nzoia, Kiambu, and Machakos are discussed within the parameters of the conceptual framework proposed. (F.M.)

295 **Goodall, J.** 1979. *Social score for kwashiorkor: explaining the look in the child's eyes.* Developmental Medicine and Child Neurology, 21(3), 374-384 (tables, 30 refs.) Fr, Es, De

§ In a survey carried out from 1969 to 1972 at New-Mulago Hospital, Kampala, Uganda, the guardians of 107 children with kwashiorkor and 111 controls were interviewed. After 50 of each group were matched according to age, sex, and tribe, 10 social factors (e.g., the child's hospital attendance, circumstances surrounding feeding, marital stability, family income, etc.) emerged that were significantly associated with the disease. It is suggested that these factors could be used as a social scoring system in assessing the risk of incipient kwashiorkor. Statistical data are included. (SALUS)

296 **Goodall, J.** 1979. *Malnutrition and family: deprivation in kwashiorkor.* Proceedings of the Nutrition Society (London), 38(1), 17-27 (tables, 20 refs.)

§ In Kampala, Uganda, 50 children with kwashiorkor were matched for age, sex, and tribe with 50 controls and the presence of 10 indicators of social and economic deprivation (e.g., absence of mother) in both groups was studied. The 10 factors were found to be more significant in the background of the children with kwashiorkor than in that of the controls. It is concluded that, in childhood, sustained personal care and affection are essential to normal growth. Statistical data are included. (SALUS)

297 **Goody, E.N.** 1982. *Parenthood and social reproduction: fostering and occupational roles in West Africa.* Cambridge Studies in Social Anthropology, no. 35, Cambridge University Press, Cambridge, GB. 348 p. (tables, ill., 212 refs.) ISBN 0-521-22721-6

§ The central question addressed in this book is how parent roles and patterns of socialization are articulated with other aspects of a society. Much of the analysis is based on fieldwork conducted by the author in central Gonja (1956-57) and in the divisional capitals of Kpembe (1964), Bole (1965), and Daboya (1974). After presenting a framework for the analysis of parental roles, the author discusses patterns of parental institutions, and in particular of kinship fosterage, in the context of the case study areas. The second part of the book takes the analysis to the wider Ghanaian and West African context and in part three fostering is examined with reference to West African and West Indian immigrant families in the U.K. The final chapter discusses parental roles in relation to two distinct processes: the long-term evolution from egalitarian, segmentary societies to hierarchical states; and a process of balancing tensions and bonds, ties and cleavages, occurring within the family itself but created in the context of wider societal structure. (F.M.)

298 **Gordon, G.** 1977. *Evaluation of a nutrition programme in northern Ghana.* Getting the most out of food: the twelfth in a series of studies on the modern approach to feeding and nutrition, pp. 9-38 (tables)

§ This evaluation of the failure of a nutrition education program in northern Ghana shows the dangers of imposing child feeding patterns without detailed knowledge of the dietary practices and socioeconomic situation of the local population. The traditional childhood diet consisted of a main meal of milled dough and soup, although some nutritional compensation was provided by the fact that infants were rarely weaned before the age of 9 months. In an attempt to improve the nutritional status of young children, nutrition education clinics and visiting social workers encouraged increased consumption of protein-rich foods and earlier supplementary feeding. To evaluate the effect of this education, researchers visited 301 mothers with 498 children, some of whom had received nutrition education, and compared data on nutritional knowledge, dietary practices, nutritional status of children under 5 years, and infant and child morbidity and mortality in both high- and low-income compounds. Although nutritional knowledge generally improved after education, low-income mothers did not have the resources to practice it. Furthermore, the nutritional status of the sick children of mothers exposed to nutrition education was actually worse than that of the sick children of uneducated mothers; reasons included the bacterial contamination of suggested food supplements and the diminished supply of mother's milk because of earlier weaning. In addition, the recommended porridge contained less iron than traditional first food, thus exacerbating anemia caused by diarrhea. Consequently, infant and child morbidity and mortality were greater in children of mothers receiving nutrition education. (SALUS)

299 **Gordon, G.** 1984. *Important issues for feminist nutrition research - a case study from the savanna of West Africa.* IDS Bulletin, 15(1), 38-44 (20 refs) ISSN 0265-5012

§ The author argues the case of including an analysis of the intrahousehold social relations of production as well as economic relations within the wider society in searching for the underlying causes of malnutrition. On the basis of field experience in Zaria, northern Nigeria, and Bawku, northern Ghana, she contends that nutritional problems are fundamentally related to poverty and must be addressed within the context of an integrated health, agricultural, and nutrition program. (F.M.)

300 Grassivaro Gallo, P., Franceschetti Mestriner, M. 1980. *Growth of children in Somalia.* Human Biology, 52(3), 547-561 (tables, figs., 20 refs.)

§ In various studies in 1971-75, the height, weight, and arm and calf circumferences of 2115 Somali children aged 1-18 years from good socioeconomic backgrounds were obtained. In addition, 397 Somali girls aged 10-16 years were asked whether they had started to menstruate. The results, dicussed and presented as statistical data, were compared with variables in Americans of European descent; only the average arm circumference of Somali girls was comparable. The authors suggest that the uncritical use of international growth charts could indicate a greater nutritional problem than really exists; a local growth chart is desirable. (SALUS)

301 Gray, R.H. 1981. *Birth intervals, postpartum sexual abstinence and child health.* In Page, H.J., Lesthaeghe, R., Child-spacing in tropical Africa: traditions and change. Academic Press, London, GB. pp. 93-109 (figs., 40 refs.) ISBN 0-12-543620-3

§ The purpose of this chapter is to examine the hypothesis that the practice of postpartum sexual abstinence has a beneficial effect on child health by increasing the birth interval and by helping to prolong breastfeeding. Specifically the authors discuss the relationship between birth interval and morbidity and mortality; the effect of lactation and lactational amenorrhea on conception; the relationship between conception and lactation; the significance of breastfeeding for infant health. From a review of the medical, epidemiological, and demographic literature, the authors conclude that there is general support for their hypothesis. (F.M.)

302 Grech, E.S. 1978. *Obstetric deaths in Lusaka.* Medical Journal of Zambia, 12(2), 45-53 (tables, figs. 16 refs.) ISSN 0047-651x

§ Analysis of mortality data at the University Teaching Hospital, Lusaka, Zambia, for 1971-76 revealed that both maternal and perinatal death rates have risen steadily since 1973. Avoidable factors were identified in 79.6% of the maternal and 49.1% of perinatal deaths. This paper discusses the reasons for the deaths, separating inside factors (nursing shortages, overcrowding, etc.) from outside factors (breakdown in referral system, failure to seek antenatal care, etc.) and makes some suggestions for improving the situation. (SALUS)

303 Green, E.C. 1985. *Traditional healers, mothers and childhood diarrheal disease in Swaziland: the interface of anthropology and health education.* Social Science and Medicine, 20(3), 277-285 (14 refs.) ISSN 0277-9536

§ A study of beliefs and practices relating to childhood diarrhea, relying primarily on traditional healers as informants and survey respondents, revealed an indigenous classification of childhood diarrhea into three main types. Enemas are used as a treatment in two types of more serious diarrhea regarded as due to unnatural causes. Most children with diarrhea are taken to clinics only after home treatments and those of traditional healers have failed, by which time a child may be severely dehydrated. The role of oral rehydration and strategies for health education are discussed in the context of Swazi culture. (AU)

304 Green, R.H., Singer, H. 1984. *Sub-Saharan Africa in depression: the impact on the welfare of children.* World Development, 12(3), 283-295 (table, 12 refs.) ISSN 0305-750X

§ This paper analyzes the impact of the economic crisis on the welfare of children in sub-Saharan Africa, an area which includes most of the least developed and most severely affected countries. These countries are characterized by low levels of skilled personpower, dependency on their primary product exports, small industrial sectors, lagging growth in food production, a high proportion of rural population, and a child dependency ratio that is virtually 1 to 1. The situation in Nigeria, Zambia, and Tanzania is examined in detail. In Zambia, where there is substantial evidence of worsening of the condition of children in the 1970s, the most urgent requirement is additional resources, particularly foreign exchange. Such is also the case with Tanzania, while Nigeria does have the resources to develop a more coherent economy and to finance basic services adequately. (AU)

305 Gregory, J.W., Piché, V. 1982. *African population: reproduction for whom?.* Daedalus, 111(2), 179-209 (tables, fig., 107 refs.)

§ The authors challange the neo-Malthusian paradigm and argue that demographic change and poverty in Africa are part of a larger process of peripheral capitalist development. To explain their hypotheses about demographic behaviour, they focus on the level of the household economy rather than that at the aggregate level of population growth rates. Because population growth is the result of a complex dynamic process involving fertility, marriage, mortality, and migration, it is necessary to assess the social and economic significance of these phenomena before analyzing the effects of population growth. Succinctly, the argument runs as follows. Capitalist penetration in Africa creates certain labour requirements, which the state satisfies through policies that force African peasants out of the rural household economy. Yet wages in the capitalist sector are extremely low, working conditions are often brutal, and social security is nonexistent, so that peasants must continue to engage in household production to ensure survival. Migration is the demographic manifestation of the articulation of the capitalist and domestic spheres of production. As for fertility, there is the double pressure of reproducing labour, both for the capitalist and domestic economies, in the face of high mortality. (AU modified)

306 **Gregory, J.W., Piché, V.** 1983. *Inequality and mortality: demographic hypotheses regarding advanced and peripheral capitalism.* International Journal of Health Sciences, 13(1), 89-106 (tables, 30 refs) ISSN 0020-7314

§ This paper analyzes mortality differences between social classes and between advanced and peripheral regions of the world economy. The demographic analysis of mortality is integrated with the study of political economy, which emphasizes the entire process of social reproduction. As part of this dialectic model, both the struggle of the working class to improve health and the interest of capital in maximizing profits are examined. Data from Quebec and Burkina Faso are used to illustrate the hypothesis that substantially higher mortality rates exist for the working class compared with the bourgeoisie and in the less developed peripheral regions compared with the more developed regions. (AU)

307 **Gregory, J.W., Piché, V.** 1985. *Population, santé et développement : cadre conceptuel, variables-clés et possibilités méthodologiques.* Communication préparée pour le Séminaire méthodologique sur les interrelations population, santé et développement, Institut du Sahel, Bamako, ML. 52 p. (fig., 33 réf.)

§ L'objectif des auteurs est d'examiner les interrelations entre la santé et la population. D'abord, ils présentent trois schémas analytique pour l'étude de la santé en rapport avec la mortalité et la morbidité. Cette première partie a comme objectif l'identification des variables les plus fréquemment retenues dans l'étude de l'interrelation entre la santé et la population. De plus, les liens entre variables (i.e., la direction de la causalité) sont également suggérés par ces modèles; ils peuvent alors en déduire une première série d'hypothèses de recherches. Dans la deuxième partie, ils proposent un schéma plus synthétique, dans lequel d'une part, les trois processus du changement démographique - aussi bien la fécondité et la migration que la mortalité - sont examinés dans un système unifié, et d'autre part, la santé est perçue par rapport à ce système démographique. Ils en dégagent une deuxième série d'hypothèses de travail. Enfin, dans la troisième partie, ils identifient quelques variables clés à privilégier dans le cadre des recherches de l'Institut du Sahel. C'est à partir des contributions théoriques et conceptuelles précédantes qu'ils défendent le choix de quelques vecteurs limités d'interrelation entre les régimes sanitaires et démographiques dans des études précises. (AU abrégé)

308 **Grinblat, J.A.** 1980. *Associations entre niveaux et tendances de la fécondité et de certaines variables socio-économiques dans les pays en voie de développement, et plus spécialement en Afrique, de 1960 à 1975.* In Actes du colloque de démographie d'Abidjan, 22-26 janvier 1979, vol. 1: fécondité. Centre ivorien de recherches économiques et sociales, Abidjan, CI. pp. 55-65 (tables)

§ Le but de la présente étude est de comparer l'évolution et les niveaux de la fécondité et des variables socio-économiques dans les pays en voie de développement, et spécialement en Afrique. L'auteur utilise les données disponibles aux Nations-Unies. Les variables socio-économiques choisis sont mortalité (espérance de vie à la naissance; taux de mortalité infantile); éducation; statut de la femme; revenus; urbanisation. L'analyse indique que ce sont les variables de mortalité, et en particulier la mortalité infantile, qui

font preuve de la plus forte association avec la fécondité. Ceci est particulièrement vrai pour les relations entre niveaux de mortalité et de fécondité, où l'on enregistre une très forte association entre fécondité et espérance de vie (r = 0,71). (AU modifié)

309 **Grosse, R.N.** 1980. *Interrelation between health and population: observations derived from field experiences.* Social Science and Medicine, 14c, 99-120 (tables, figs., 67 refs.)

§ This paper presents information and concepts concerning the health of populations in less developed countries as background for discussions on more focused and detailed papers. It begins with a review of health status and trends since 1950, followed by a section identifying the major health problems and their causes. The third part includes analyses of associations between health resources, water and sanitation facilities, food availability, and social indicators taken as independent variables and measures of health status - life expectancy, crude death rates, and infant mortality - as the dependent variables. The final section discusses health polic.es and their implementation and offers an analysis of the resource requirements and health effects for different methods of organizing health programs. The objective is to illustrate a method for determining preferred activities at any given level of investment and the probable health effects of varying increases in the level of health expenditures. (AU modified)

310 **Gubry, F., Mfoulou, R., Ngwe, E., Ntitebirageza, E.** 1984. *Bilan de la collecte de l'enquête sur la mortalité infantile et juvénile à Yaoundé (EMIJY).* Quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaounde, CM, 19-23 Nov. 1985. 103 p. (tables, fig.)

§ Ce document a pour objectif principal de discuter la méthodologie de collecte utilisée par l'EMIJ à Yaoundé entre janvier 1978 et janvier 1981. Le but de cette enquête était de mesurer le niveau et la structure de la mortalité des enfants de moins de deux ans. Après une présentation méthodologique, les auteurs examinent l'exécution de la collecte (préparation et déroulement); l'échantillon des naissances et son évolution; coût et gestion financière de la phase de collecte; et l'évaluation de la collecte. (F.M.)

311 **Guillo du Bodan, H., Carme, B.** 1984. *Etude rétrospective sur la mortalité de l'enfant de moins de 5 ans dans une zone rurale de la région de Brazzaville (R.P. Congo). II Analyse des conditions de naissance.* Bulletin de la Société de Pathologie Exotique et de ses Filiales, 77(2), 227-233 (fig., table. 5 réf.) En

§ L'analyse des conditions de naissance de 1003 enfants (976 accouchements) nés en 1976 à Lizolo (République Populaire du Congo) et ayant fait l'objet d'une étude longitudinale en 1981 afin d'évaluer les causes et taux de mortalité de 0 à 5 ans, a permis de préciser certaines conditions socio-démographiques des mères, d'analyser les conditions d'accouchement et d'établir la courbe de poids de naissance. De plus l'incidence sur la mortalité des conditions de grossesse et de naissance a été étudiée en comparant celles observés chez les 484 enfants vivants à 5 ans enquêtés en 1981 et chez les 64 enfants dont le décès a été établi. Le poids de naissance moyen est de 2835 g. Les insuffisances de poids de naissance (IPN) se rencontrent dans 20,3 % (poids 2500 g) parmi ceux-ci 68,7 % ont une IPN et faible poids à 5 ans. Les enfants ayant eu une IPN ont un coefficient de mortalité 3,5 fois plus élevé que les autres. Cette plus grande mortalité est directement liée à la prématurité car après 6 mois les taux ne sont plus significativement différents. La taux de mortalité à 5 ans est 2 fois plus élevé chez les enfants nés de grandes multipares (7 grossesses et plus), et 2,5 fois plus élevé en cas de première ou deuxième parité, que dans la catégorie intermédiare (troisième à sixième pare). (AU)

312 **Guillozet, N.** 1979. *Measles in Africa: a deadly disease; some personal comments.* Clinical Pediatrics, 18(2), 95-100 (ill., 21 refs.)

§ Measles dominates childhood illnesses in tropical Africa with a variety and severity of complications unknown in the West. There is no apparent continental variation in measles virus but environmental factors vary widely. The frequent association of severe measles with malnutrition and recent studies indicating impaired humoral, cellular, and mucocutaneous immunologic function in the malnourished may explain this perplexing disease. Prevention of early malnutrition combined with lasting and economic early immunization with heat-stable vaccine, currently unavailable, are needed to halt this frequent, costly, and often fatal African scourge. (AU)

313 **Gussler, J.D., Woo-Lun, M.A.** 1982. *International breast-feeding compendium.* Ross Laboratories, Columbus, OH, US. p.

2v (tables, 300 refs.)

§ These two volumes on the prevalence, duration, and trends in breastfeeding worldwide summarize and present data taken from national nutrition and fertility surveys, the World Health Organization's Collaborative Study, published articles, and conference papers. Volume one covers the eastern hemisphere and volume two the western hemisphere. The latter includes a comprehensive bibliography and abstracts of a selected number of reports and articles on breastfeeding and accompanying tables to provide a view of the various types of studies represented in the compendium. (SALUS)

314 **Gwatkin, D.R.** 1980. *Indications of change in developing country mortality trends: the end of an era?* Population and Development Review, 6(4), 615-644 (tables, refs.)

§ Recent information points to noticeable changes in the pace and pattern of mortality decline in major parts of the developing world. A sharper slowing of progress against mortality than would have been expected on the basis of European experience has been reported in many developing areas and there are signs of increasing diversity among countries. The change appears related to a decline in the capacity of health programs to deal with evolving disease problems in the developing world and the slowdowns with respect to several aspects of social and economic progress of particular relevance for mortality decline. Such developments raise the question of whether the era of unprecedentedly rapid mortality declines in developing countries is approaching an end. (Population Index)

315 **Gwatkin, D.R., Wilcox, J.R., Wray, J.D.** 1980. *The policy implications of field experiments in primary health and nutrition care.* Social Science and Medicine, 14c(2), 121-128 (9 refs.)

§ A review of 10 pilot projects, that provide simple health and nutrition services and keep data adequate to permit an assessment of their effectiveness, suggests that mortality declines were notably more rapid in a clear majority of the project sites than would have been expected in the projects' absence. Although the data cannot be considered fully reliable or completely unambiguous, when taken as a whole they present a persuasive case that, in the hands of able administrators and in populations of up to 70 000, infant and child mortality can be reduced by a third to a half or more within 1-5 years at a cost of less than 2% of per capita income. Among the particularly promising program components were maternal food supplements, maternal immunization against tetanus, nutrition monitoring, and greater reliance on paramedical personnel. At least as important was the effectiveness and sensitivity with which the particular components selected were implemented and administered. The experience of the projects indicates that primary health and nutrition care is capable of helping to make a substantial difference in infant and child mortality levels. (AU abbrev.)

316 **Gwatkin, D.R.** 1984. *Mortality reduction, fertility decline, and population growth: toward a more relevant assessment of the relationship among them.* World Bank Staff working paper no. 686, Population and Development Series, no. 11, World Bank, Washington, US. 66 p. (tables, refs.) Fr, Es ISBN 0 8213 0445 3

§ What are the population growth consequences of public policies and programs to reduce mortality? How large a change in growth will result from efforts to lower fertility? An adequate response to such questions requires an approach which examines the overall influence on fertility and mortality of the programs and policies under consideration. There are two types of influence to be covered: the influence of the policies or programs on mortality and fertility; and the influence of the resulting fertility or mortality decline on the rate of change in the other. Current approaches, which focus primarily on the growth consequences of a change in mortality or fertility per se, largely overlook the former of these two types of influence. This makes them inadequate for the assessment of public policies and programs. An approach of the sort required is difficult to apply, but its potential significance for policy and program analysis can be illustrated through a few qualitative and crude quantitative examples. These illustrations, taken in conjunction with the conceptual considerations presented, suggest two propositions to serve as interim guides to action and as hypotheses to be confirmed or disproved through future research: most programs and policies undertaken to reduce mortality will, in most settings and over the long run, produce even larger fertility declines and thus slower growth; most measures designed to reduce fertility will also result in slower growth, but by an amount that may upon occasion be significantly less than anticipated on the basis on conventional assessment techniques. (AU modified)

317 **Haller, L., Lauber, E.** 1980. *Santé de l'enfant d'âge scolaire en Côte d'Ivoire : aspects de santé publique, de croissance et de nutrition en relation avec les infections parasitaires.* Acta Tropica, 37(4), 5-132 (carte, tables, fig., réf.) En

§ La présente monographie donne les résultats des examens subis par 430 enfants, âgés de 5 à 15 ans, vivant dans quatre villages de la région forestière de la Côte d'Ivoire; on y discute des données anthropométriques et hématologiques, de la consommation des vitamines et de l'évolution de la nutrition, compte tenu des parasitoses et du régime alimentaire. L'ouvrage décrit les aspects géographiques et démographiques, le milieu social et ethnique et présente des données épidémiologiques relatives à la tuberculose primaire, à la toxoplasmose, à la cytomégalie et à l'hépatite. Un groupe témoin d'enfants a été utilisé aux fins de comparaison. Les résultats des examens suivants effectués entre 1976 et 1977 sont présentés à l'aide de tableaux et graphiques : traitement antiparasite pour les vers intestinaux et la schistosomiase, enquête parasitologique quantitative, tests sérologiques et analyse biochimique des carences en vitamines. Cette monographie comporte également une bibliographie détaillée. (SALUS traduit)

318 **Hanegraaf, T.A., Gemert, W.** 1978. *Endemic goitre in Kenya: the pattern of iodine excretion.* Tropical and Geographical Medicine, 30(4), 429-438 (tables, figs., map, 17 refs.)

§ A national, random-sample survey of iodine excretion among primary schoolchildren in Kenya was carried out in 1974-75, to monitor the endemic goitre situation and its control more accurately and to gain more insight into the geographical distribution of iodine deficiency in the country. Urine samples were collected in 59 randomly chosen primary schools in 32 districts from which the individual iodine : creatinine ratios were determined. The results are analyzed and presented by school, by district, and by province, showing areas of normal, moderate, and low iodine intake, the latter coinciding with the known goitre areas in Kenya. Although some doubts have been cast on the methods used in this survey and the consequent reliability of its conclusions, the authors consider its publication justified. (AU)

319 **Hansluwka, H., Lopez, A.D., Porapakkham, Y., Presartkul, P.** 1986. *New developments in the analysis of mortality and causes of death.* American Press, Bangkok, TH. 546 p. (tables, figs., refs.) 974-585-857-9

§ This volume on new developments in the analysis of mortality is an outcome of a joint United Nations/World Health Organization research program. Individual contributions are organized under six topics: the elusive paths of mortality transition; uses of mortality data and the development of an index of preventable deaths; methodological developments, including a paper by H. Hansluwka "Reflections on the measurement of social inequality of death"; cause-of-death analysis; health, nutrition, and mortality; and paths of mortality change. For the most part case studies are drawn from Asia. (F.M.)

320 **Harrington, J.** *The effect of high infant and childhood mortality on fertility: the west African case.* Concerned Demography, 3(1), (tables, 12 refs.)

§ On the basis of retrospective data collected in three knowledge/attitude/practice and fertility surveys in Ghana (1965-66), Burkina Faso (1969), and Niger (1970), the author discusses the relationship between infant and child mortality and fertility. She suggests that there are at least three pathways to the pattern of the death of child 1, the birth of child 2, and a short interval in between. The first involves the desire to replace the dead child by having a second child sooner than would normally be the case; the second involves the death of child 1, the early stopping of lactation, thus the suppression of ovulation, and a subsequent early pregnancy; the third, largely ignored by demographers, involves the birth of a second child too soon after the previous birth which necessitates the early and abrupt weaning of the first child and leads to his death. Policy implication of the findings are drawn. (AU modified)

321 **Harrington, J.** 1977. *Infant and early childhood survivorship in Upper Volta.* In Pool, D.I., Coulibaly, S.P., Demogaphic transition and cultural continuity in the Sahel: aspects of the social demography of Upper Volta. International Population Programme, Cornell University, Ithaca, US. pp. 172-227 (tables, 10 refs.)

§ This study discusses the relationship between levels of infant survivorship and demographic and social differentials in the context of high levels of infant and child mortality in Burkina Faso. Data collected by retrospective techniques on detailed pregnancy histories include: age of mother, total number of children born alive, sex of child, maternal and paternal education, marital status (monogamy/polygyny), religion, access to medical care, length of lactation and postpartum abstention from intercourse. Analysis of the data indicated that in urban areas factors, such as greater access to and use of medical facilities, more education, relative affluence, "sophistication," access to a safe water supply, and better distribution and constant availability of foodstuffs, are more important variables in infant and child survivorship than prolonged lactation and abstention. In contrast, in rural areas, the latter two variables are critical in terms of survivorship. (F.M.)

322 **Harrington, J.** 1979. *Mortality in infancy and childhood in a developing country: the example of West Africa.* In Udo, R.K., Population Education Source Book for Sub-Saharan Africa. Heinemann Educational Books, Nairobi, KE. pp. 125-136 (tables, 22 refs.)

§ Using data from three fertility surveys conducted in rural and urban areas of Ghana, Burkina Faso, and Niger, this chapter evaluates the relationship between infant and child mortality and economic development. The surveys collected cross-sectional and retrospective data on demographic and socioeconomic variables and pregnancy histories. In general, analysis supported the hypothesized positive relationship between economic development and infant and child survivorship, but the author argues that the relationship is not a direct one and she identifies certain situations where economic development is related to increased mortality. One example of this is the decreased duration of breastfeeding associated with urbanization and higher infant mortality rates among some sectors of the urban population. (F.M.)

323 **Harrison, K.A.** 1979. *Nigeria.* Lancet, 2(8155), 1229-1232 (tables, figs., 7 refs.)

§ One of the most important problems facing medical practice in Nigeria is the country's high perinatal and maternal mortality. This article examines these problems in Zaria, a city in northern Nigeria with a population of 200 000. Economic circumstances, deficiencies in medical care, and traditions and customs surrounding childbearing all contribute to the high death rates. There have been advancements in prevention, diagnosis, and management of contributing problems; the introduction of universal primary education and Operation Feed the Nation have also been helpful. Nevertheless, improvements in maternal and perinatal health are still dependent upon improvements in living standards. Statistical data are included. (SALUS)

324 **Harrison, K.A., Rossiter, C.E., Chong, H.Y., Lister, U.G.** 1984. *Zaria Maternity Survey 1976-79. IV Perinatal mortality.* 26 p. (tables, figs., 22 refs.)

§ In a hospital-based survey of 21 957 singleton births in Zaria, northern Nigeria, the perinatal mortality rate was 103 per 1000 total births. Of all the perinatal deaths, 67% were stillbirths, and, in 77% of stillbirths, intrauterine death had already occurred before admission to hospital. Birth weight was normal in 91% of live births, 60% of stillbirths, and 50% of neonatal deaths. The principal obstetric causes of the perinatal deaths were obstructed labour and its consequences, anemia, antepartum hemorrhage, eclampsia, and low fetal birth weight. Nearly half of all the perinatal deaths were associated with complicated deliveries. Both the proportion of babies with low birth weight and the perinatal mortality rate rose dramatically and progressively with hematocrit below 0.30. Of the biosocial factors influencing perinatal health, lack of antenatal care, residence outside Zaria, and high parity exerted the most deleterious effect and literacy and antenatal care the most favourable effect on pregnancy outcome. (AU)

325 **Harry, T.O., Ogunmekan, D.A.** 1981. *Optimal age for vaccinating Nigerian children against measles. I. Neonatal antibody profile and subsequent susceptibility to measles.* Tropical and Geographical Medicine, 33(4), 375-378 (tables, fig., 16 refs.)

§ The decline of maternally acquired hemagglutination inhibiting antibodies against measles virus in Nigerian children born in Lagos was studied. At birth, all 303 children whose cord blood serum was tested had measurable antibodies. The antibody titre remained detectable in all the children up to 4 months of age, and in over 90% at 5 months of age. At 6 months, 65% of the children were without detectable antibodies. At 7 and 8 months the proportion of children without measurable antibodies was reduced to 50% and 42%, respectively, indicating a slight but progressive improvement in the immune status. These findings provide a serological basis for starting antimeasles immunization of Nigerian children at 6 months. (AU)

326 **Hassan, M.M.** 1978. *Changing patterns of protein-caloric malnutrition in the Sudan.* In Proceedings of the 11th international congress of nutrition, Sociedade Brasileiro de Nutrição, Rio de Janeiro, Brazil, 27 Aug. - 1 Sept. 1978. pp. 177-184 (tables, 2 refs.)

§ Socioeconomic, cultural, and psychological factors affecting the marked increase in incidence of protein-caloric malnutrition and marasmic-kwashiorkor among infants and children in the Sudan during the last 5 years are examined. With the trend, especially among urban women, toward bottle-feeding appearing to be a major factor in the changing patterns of disease and nutrition, the infant feeding patterns of 170 mothers with various socioeconomic backgrounds were studied. The inability and reluctance of working mothers to breastfeed their infants, the widespread use of contraceptive pills, and the increased advertizing and distributing of powdered milk and supplemented artificial feeds are among the reasons for the general decline in breastfeeding. (SALUS)

327 **Heer, D.M.** 1983. *Infant and child mortality and the demand for children.* Population Review, 27(1/2), 7-16 (22 refs.) ISSN 0032-471x

§ The objective in this article is to assess the relationship between infant and child mortality and the demand for subsequent births. The author does this by looking at differential fertility behaviour after the death of an infant or child in light of a series of six hypotheses. The first three hypotheses, to which much more research has been directed, consider sequential responses to child death; the latter three consider the extent to which the perceived level of child survival affects fertility. (F.M.)

328 **Hendrickse, R.G., Coulter, J.B.S., Lamplugh, S.M., Macfarlane, S.B.J., Williams, T.E., Omer, M.I.A., Suliman, G.I.** 1982. *Aflatoxins and kwashiorkor: a study in Sudanese children.* British Medical Journal, 285(6345), 843-846 (tables, figs., 23 refs.)

§ Blood and urine samples for 252 Sudanese children were investigated for their aflatoxin content by high performance liquid chromatography. Aflatoxins were detected more often and at higher concentrations in sera for children with kwashiorkor than in other malnourished and control groups. These findings suggest either that the children with kwashiorkor have a greater exposure to aflatoxins or that their ability to transport and excrete aflatoxins is impaired by the metabolic derangements associated with kwashiorkor. The presence of aflatoxicol in the sera of children with kwashiorkor but not in the others suggests a difference in metabolism between the two groups. Further studies are needed, and measurement of aflatoxins in the food eaten by these children is already underway. (AU modified)

329 **Hendrickse, R.G.** 1982. *Editorial: malnutrition and mycotoxins.* Annals of Tropical Paediatrics, 2, 99-100 (21 ref.) ISSN 0272-4936

§ The author states that the role of aflatoxins and other mycotoxins as environmental hazards has been neglected in medical research. He sites research to support the argument that aflatoxins in particular may be of significance as variables in the pathogenesis of kwashiorkor. Research recommendations are made. (F.M.)

330 **Henin, R.A.** 1983. *Priorities in population programs in Africa.* Second African population conference, Arusha, TZ, 9-13 Jan. 1984. Economic Commission for Africa, ET. 15 p. (tables, 4 refs.) E/ECA/POP/9

§ With the aim of identifying priorities in population programs in Africa, the first section of the document discusses the lack of comprehensive population policies in the context of high fertility, mortality, and population growth rates. In the second section, a plan of action is outlined for the development of a comprehensive population policy. Three components of this plan include: creating an awareness among policymakers of the relationship between population change and economic development; identifying cultural factors that influence child spacing practices; research into the determinants of fertility and mortality in Africa to launch a successful information and education campaign. (F.M.)

331 **Hennart, P., Vis, H.L.** 1980. *Breast-feeding and post partum amenorrhoea in Central Africa; I: milk production in rural areas.* Journal of Tropical Pediatrics, 26(5), 177-183 (tables,

figs., 26 refs.)

§ In a study of milk production among the Shi and Havu mothers in the eastern highlands of Zaire (subsistence communities in a relatively healthy environment), 337 infants aged about 12 months were weighed before and after feeding over a 24-hour period to determine the amount of milk ingested. The amount of milk produced by the mothers per day varied from 611 g during the harvest season to 489 g during a period when food was in short supply. The infants received an average of 13 feedings per day and only 19% of the women had resumed menstruating 1 year after the birth of the baby. This paper presents the study methodology and findings, comparing them with data from other studies of milk production in Africa and other developing areas of the world. (SALUS)

332 **Heymann, D.L., Mayben, G.K., Murphy, K.R., Guyer, B.J., Foster, S.O.** 1983. *Measles control in Yaoundé: justification of a one dose, nine month minimum age vaccination policy in tropical Africa.* Lancet, 2(8365/6), 1470-1472 (tables, 18 refs.)

§ For tropical countries, the World Health Organization recommends a single dose of measles vaccine, administered at a minimum age of 9 months. In some African nations, however, up to 26% of all reported measles cases occur before the age of 9 months, and many African nations have been reluctant to follow the WHO recommendation. In 1974 the Ministry of Health of the United Republic of Cameroon made several changes in the existing measles control strategy, including increasing the minimum age for measles vaccination from 6 to 9 months. Surveillance of measles in Yaoundé, the capital city, during the 5 years after the increase in age at vaccination did not reveal a need to return to the minimum age of 6 months. In fact, by 1979, with measles vaccination coverage among children 12-23 months of age at 40%, there had been a 44% decrease in reported measles cases among children of all ages, including a 64% decrease in the measles attack rate among children under the age of 9 months. These observations support the one-dose, 9-month minimum age measles vaccination policy in tropical Africa. (AU)

333 **Hilderbrand, K., Hill, A.G., Randall, S.C., van den Eerenbeemt, M.L.** 1985. *Child mortality and care of children in rural Mali.* In Hill, A.G., Population, health and nutrition in the Sahel: issues in the welfare of selected West African communities. Routledge and Kegan Paul, London, GB. pp. 184-206 (table, refs.) 0713-00999

§ The purpose of the research identified here is to integrate cultural variables into an analysis of child mortality levels and differentials in rural Mali. Data from the 1981-82 demographic surveys indicate high infant and child mortality levels, variations of these between ethnic groups, within and between ecological zones, and between social classes. Data from the Delta Tamasheq, the Delta Fulani, the Seno Fulani, and the Gourma Tamasheq are discussed. A tentative explanatory framework is presented based on the hypothesis that cultural and environmental factors do not themselves directly influence mortality. Rather, they work through two intermediate variables or epidemiological factors, exposure and susceptibility. In turn these affect the precise causes of mortality here defined as infection, accidents, and malnutrition. The model proposed indicates the complexity of variables involved and their synergistic influence on infant and child mortality. (F.M.)

334 **Hill, A.G., Randall, S.C., Sullivan, O.** 1982. *The mortality and fertility of farmers and pastoralists in Central Mali 1950-1981.* CPS research paper, no. 82-4, London School of Hygiene and Tropical Medicine, London, GB. 54 p. (tables, figs, map, 11 refs.) Fr

§ The authors report on the results from two sample demographic surveys carried out in Mali by a team from the Centre for Population Studies of the London School of Hygiene and Tropical Medicine in conjunction with the International Livestock Centre for Africa. The data are for two ethnic groups - a settled village population of Bambara millet farmers and a group of Twareg nomadic cattle herders - both of whom live in or around the inner delta of the river Niger in central Mali. Fieldwork for the Bambara survey took place in March-May 1981 and for the Twareg sample, in May-July 1981. The general aim of the research was to analyze the relationships between the way of life, health, nutrition, and growth rates of the two populations. A single-round survey using indirect questions and estimation procedures based on work by W. Brass was considered the most appropriate for a nomadic population. The survey results for the Bambara and Twareg are summarized and then compared with the older material from the Mission Socio-économique 1956-58 and a demographic survey carried out by the new Republic of Mali in 1960-61. Some comparisons are also drawn with the census results from December 1976. (AU modified)

335 **Hill, A.G., Randall, S.C., van den Eerenbeemt, M.L.** 1983. *Infant and child mortality in rural Mali.* Research paper, no. 83-5, Centre for Population Studies, London School of Hygiene and Tropical Medicine, London, GB. 45 p. (tables, figs., maps, 24 refs.) ISBN 0-902657-08-9

§ New data on child mortality among three ethnic groups (Bambara, Fulani, and Kel Tamasheg) resident in two zones in rural Mali (the Niger inner delta and the surrounding semi-arid and savanna areas) is presented. Data were gathered during a program of single-round demographic surveys in 1981 and 1982 and both direct and indirect estimates of child mortality are presented. Patterns of child mortality by ethnic group, zone, and social class are discussed. The authors conclude that the quality of birth history data collected in a single-round survey in such a population can be sufficiently good for a detailed analysis of child mortality using life table techniques; that the age pattern of child mortality with the exception of the delta Fulani is different from the pattern identified by Cantrelle and Garenne for rural Senegal and Gambia, i.e., the extremely high mortality of 1-3 year olds identified in Sene-Gambia was not found; that, where child mortality is high, demographic evidence suggests that it may be cost effective to concentrate on two critical periods in the lives of young children - the first month of life and 10-15 months of age. (AU modified)

336 **Hill, A.G., Randall, S.C.** 1983. *Explication des différences de taux de mortalité juvenile: perception et traitements des maladies infantiles au Mali central.* Document préparé pour le Premier colloque d'anthropologie médicale, CNRS, Paris, FR, 28-30 Nov. 1983. 24 p. (tables, fig., 21 réf.)

§ En utilisant un cadre conceptuel qui intègre les facteurs culturels et environnementaux dans l'examen de la mortalité infantile et juvénile parmi cinq groupes du Mali central (Peuls du delta, Bambaras, Peuls du Séno, groupe Tamasheq du delta et groupe Tamasheq du Gourma), les auteurs ont obtenu des résultats inattendus. Se servant de données qualitatives pour vérifier les questions soulevées par l'analyse quantitative, les auteurs prétendent que le niveau des revenus ne constitue pas une variable explicative d'une grande utilité dans l'analyse de la mortalité différentielle. Il faut plutôt entreprendre une étude approfondie des attitudes sociales face aux maladies et leur traitement pour mieux comprendre les causes de la mortalité infantile. (F.M. traduit)

337 **Hill, A.G., Randall, S.C.** 1984. *Différences géographiques et sociales dans la mortalité infantile et juvénile au Mali.* Population, 8, 921-946 (tables, fig., carte, 21 réf.) En, Es

§ Dans cet article sont présentées pour cinq populations rurales du Mali des tables de mortalité aux jeunes âges. Les prévisions que les populations pauvres, isolées ou nomades aient des niveaux de mortalité plus élevés que ceux des populations plus riches, moins isolées et sédentaires se sont montrées fausses. Après avoir fait un contrôle sur les facteurs tels que l'ethnie, le système de production et l'environnement, les différences de mortalité restent inexpliquées. Une étude approfondie sur une population nomade Kel Tamasheq indique que differents systèmes de maternage et de soins donnés aux enfants peuvent être des déterminants importants de la variation des taux de mortalité. (AU)

338 **Hill, A.G.** 1985. *The recent demographic surveys in Mali and their main findings.* In Hill, A.G., Population, health and nutrition in the Sahel: issues in the welfare of selected West African communities. Routledge and Kegan Paul, London, GB. pp. 41-63 (refs.) ISBN 07103-00999

§ A nontechnical summary is given of the results of a series of single-round demographic surveys carried out in central Mali in 1981-82 by researchers from the London School of Health and Tropical Medicine. Differences in mortality and fertility between the Bambara, the Delta and Seno Fulani, and the Delta and Gourma Tamasheq are discussed on the basis of household interviews. With reference to the discussion on infant and child mortality, on the basis of data on children ever born and surviving, a high level of child mortality is calculated. This averages 40% for the older maternal age ranges. Further analysis indicates 25% of the babies die before 1 year and a third before the age of 5 years. The mortality rates for the Delta Fulani are much higher, one third dying before their first birthday, and half before the age of 5. The conclusion is that there has been little, if any, decrease in child mortality for these populations for the past 15 years. It is recommended that future surveys include questions on children ever born and surviving, births in the preceding 12 months, and questions on orphanhood; that further inquiry into marriage patterns, child care, and morbidity patterns in selected parts of the Sahel be made to allow further comparative analysis. (F.M.)

339 **Hill, A.G.** 1985. *Population, health and nutrition in the Sahel: issues in the welfare of selected West African communities.* Routledge and Kegan Paul, London, GB. 122 p. (tables, figs., ill., 185 refs.) ISBN 07103-00999

§ The chapters in this book represent, for the most part, papers given at a meeting on "The demography; social structure and welfare of selected pastoral and agro-pastoral communities in the Sahel," held in Bamako, Mali, January 1983. The 15 chapters relate to the three main themes of the meeting: demography; livestock rearing and the social organization of herders; and nutrition, health and seasonality. The research focuses on the Sahel at a time when "productive systems were working normally" rather than in a crisis situation. Separate bibliographic entries are given for Hill, van den Eerenbeemt, and Hilderbrand et al. (F.M.)

340 **Hill, A.G., Kaufmann, G.L.** 1985. *A review of materials and methods for the study of infant and child mortality in Africa.* Seminaire methodologique sur les interrelations population, sante et développement, Bamako, ML, Feb. 1985.

§ This review aims to demonstrate some of the limitations of the existing approaches to the study of infant and child mortality and to indicate the value of introducing a number of improvements. The overall orientation of the paper is that some reevaluation of the role of the civil registration system is necessary. The point is made in particular that with an extension of primary health care to most of the population, statistics generated by these health services will be potentially the most important source of information on the subject. (AU modified).

341 **Hill, K.** 1984. *Uses of mortality data for planning and research.* In Department of International Economic and Social Affairs/U.N., Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, TH, 20-23 Oct. 1981. Population Studies, no. 84, Department of International Economic and Social Affairs, United Nations, New York, US. pp. 15-17 (3 refs.) ST/ESA/SER.A/84

§ This paper provides an overview of the uses to which mortality information is put. The first category of uses, termed descriptive and demographic, views mortality as one of the three components of population dynamics and centres on population forecasting, an essential element of socioeconomic planning, and social description. The second category covers uses in the health sector; examples include the identification of high mortality-risk groups, so that health services can be efficiently targeted, and the evaluation of health services and projects. The third category covers uses in medical research and investigation. For each type of use the characteristics of the information required, such as accuracy, detail, and timing, are discussed. (AU)

342 **Himonga, H.** 1982. *An approach to the detection of malnutrition in rural children using socio-economic indices and level of eduction of mother as proxy.* Medical Journal of Zambia, 16(2), 17-21 (tables, 8 refs.) ISSN 0047-651x

§ The purpose of the study was to test the hypothesis that there is a relationship between childhood malnutrition and socioeconomic status and level of education of mother. A sample of 650 rural children, 1-14 years old, was randomly selected for the study from eight villages in Kampumbu, Zambia, an area characterized by a high degree of malnutrition. Data on economic status, diet, maternal education level, and other demographic factors were collected. Nutritional status was assessed from clinical data, biochemical testing, and anthropometric measurements. Findings indicated a far higher incidence of malnutrition among low-income households, compared to higher income households. The authors suggest that additional studies are needed to assess the relationship between maternal education and malnutrition. (F.M.)

343 **Hitchings, J.A.** 1982. *Agricultural determinants of nutritional status among Kenyan children.* University Microfilms

International, Ann Arbor, US. 247 p. (tables, figs., maps, 76 refs.) Order no. 8301230

§ Income, foreign exchange, and tax-base objectives have led to cash-crop strategies that monetize rural economies. Critics have argued that displacing subsistence crops and shifting consumption patterns may jeopardize nutritional status and erode real income by elevating food prices. The impact of cash crops on the nutritional status of Kenyan children is examined with data from the Second Integrated Rural Survey (1400 children, 1977) conducted by the Central Bureau of Statistics. Iterated branching networks relate anthropometric indicators to agricultural and nonagricultural household characteristics. Water source and distance, household and farm size, the sex of the farm manager, and the sale orientation of production were particularly significant. Although a sale orientation was favourable, producing the inedible cash crops, coffee, cotton, and pyrethrum, tended to be neutral. Sugar and tea cultivation in western Kenya were negatively associated with nutritional status. Anthropometric variables are regressed on the complete cropping pattern and livestock holdings in the central coffee and tea regions. Parallel regressions of net farm income, the caloric subsistence ratio, and the total value of food consumption of the same explanatory variables are made in an additional dataset. There was harmonization between cropping patterns which boosted net income and nutritional status. Coffee and tea did not reduce the subsistence ratio, which has been constant for a decade, but coffee cultivation escalated the value of purchased food. Four years of clinic data reveal patterns of preharvest seasonal malnutrition which diverge in separate ecological zones. Discriminant analysis applied to feeding practices highlights the hazards of banana- and cassava-based diets. Methodological sections address statistical tests of malnourished population segments, the accuracy and specificity of the arm circumference indicator, and conversions between percents of standard, standard deviations from the mean, and percentiles in nutritional anthropometry. (AU)

344 **Ho, T.J.** 1982. *Measuring health as a component of living standards.* Living Standards Measurement Study working paper, no. 15, World Bank, Washington, US. 58 p. (tables, figs., 28 refs.)

§ This paper discusses measures of health status for use in a survey whose objective is to measure and compare levels of living among different population groups. It also discusses relationship between health and other components of the standard of living and suggests means by which such relationships can be analyzed and interpreted for eventual determination of policies to improve health status and related components of living standards. Given the time and cost contraints of a multidimensional survey like the Living Standards Measurement Study, a detailed epidemiological profile of the population is not attempted. Rather, emphasis is given to general measures of health as opposed to the identification of specific diseases, and to relating general health to the overall level of development. (AU)

345 **Hobcraft, J.N., McDonald, J.W., Rutstein, S.O.** 1983. *Child-spacing effects on infant and early child mortality.* Paper presented at the 52nd annual meeting of the Population Association of America, Pittsburgh, US, 14-16 April 1983. 35 p. (tables, figs., 29 refs.) WFS/TECH 2081

§ Using World Fertility Survey data which include complete live-birth histories, the approach adopted to analyze the effects of child spacing on infant and early childhood mortality is to form counts of births in segments of time before and after the child in question, as index child. The authors use three 2-year windows of observation immediately before the birth of the index child, forming counts of births 0-2, 2-4, and 4-6 years before. These counts permit indirect estimation of the length of the immediately preceding interval, but also preserve detail about the overall incidence of child bearing during the 6 years before the index child was born. The impact of later births on the survival of the index child is also estimated. The most significant contribution of the paper is to document the adverse effects of close subsequent births in a large number of developing countries. (AU modified) *

346 **Hobcraft, J.N.** 1984. *Use of special mortality questions in fertility surveys: the world fertility survey experience.* In Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 Oct. 1981. Population Studies, no. 84, United Nations, New York, US. 90-103 (tables, 9 refs.)

ST/ESA/SER.A/84

§ The intentions of this chapter are to review briefly the nature of the information relevant to the study of mortality collected in the World Fertility Survey; to review the various assessments of the quality of data on infant and child mortality; to discuss the relative advantages and limitations of retrospective maternity histories for the study of infant and child mortality; to provide some highlights of findings to date from comparisons across a large number of countries; to give some preliminary findings on the interplay between individual and household factors in determining levels of infant and child mortality; and to outline some of the major directions for future use of these data. (AU)

347 **Hobcraft, J.N., McDonald, J.W., Rutstein, S.O.** 1984. *Socio-economic factors in infant and child mortality: a cross-national comparison.* Population Studies, 38(2), 193-223 (tables, figs., 21 refs.)

§ Using data from World Fertility Surveys, the authors examine the relationships between socioeconomic variables and neonatal, postneonatal, and child mortality for 28 countries. Five variables available in each survey are investigated: maternal education, mother's work status, husband's occupation, paternal education, type of residence. After summarizing univariate differentials in mortality and its components, the authors turn to multivariate analysis, using log-linear rate models to assess the relative influence of the variables. The results are discussed with reference to particular country experiences. (F.M.)

348 **Hogan, R.C., Broske, S.P., Davis, J.P., Eckerson, D., Epler, G., Guyer, B.J., Kloth, T.J., Kolff, C.A., Ross, R., Rosenberg, R.L., Staehling, N.W., Lane, J.M.** 1977. *Sahel nutrition surveys, 1974 and 1975.* Disasters, 1(2), 117-124 (tables, maps, 4 refs.)

§ The results of three nutrition surveys carried out in 1974 and 1975 on the rural, sedentary population of the Sahel are presented and compared. In accordance with the survey methodology, children aged 6 months to 6 years were selected as the most sensitive indicators of acute malnutrition. Statistical data for each country on malnutrition, mortality, relief supplies, and food reserves show that maintenance and carefully distributed food supplies are more important than constant, year-long assistance. The problem of malnutrition was found to be particularly serious in Chad and Burkina Faso, where needs should be closely monitored in the future. (SALUS)

349 **Holborow, C., Martinson, F., Anger, N.** 1982. *A study of deafness in West Africa.* International Journal of Pediatric Otorhinolaryngology, 4(2), 107-132 (tables, 29 refs.) ISSN 0165-5876

§ Some 800 profoundly deaf children from four Yoruba states in Nigeria were assessed and examined in an attempt to identify the causes of deafness in this part of West Africa. It was found that measles, meningitis, and rubella were the three major preventible diseases causing deafness. Genetic abnormalities, in contradistinction to other tropical countries, do not seem to be very important and chronic ear infections show different manifestations in this area to the situation reported in East Africa. The overwhelming problems that face the deaf and possible extension of services for the deaf are detailed. In view of these, it seems that the most cost-effective way of helping the deaf in Nigeria is by immunizing the population against those infectious diseases that cause the disability. (AU abbrev.)

350 **Hollingsworth, T.H.** 1981. *The use of 2 census populations given by single years of age to determine past catastrophes: an experiment with Kenyan data.* In African historical demography, vol. 2. Seminar held at the Centre of African Studies, University of Edinburgh , Edinburgh, GB, 24-25 April 1981.

§ A new method of analyzing data by single years of age from two successive population censuses may give useful information on the true relative sizes of birth cohorts. This in turn shows how past events have affected these cohorts. (AU)

351 **Hoorweg, J.** 1976. *Protein-energy malnutrition and intellectual abilities: a study of teenage Ugandan children.* Mouton, The Hague, NL. 148 p. (tables, maps, 182 refs.) ISBN 90 279 7752 6

§ The question of whether protein-energy malnutrition during early childhood has a lasting influence on intellectual abilities carries grave social implications and has been the subject of a debate in medical and psychological circles during the last 10 years.

There is considerable difference of opinion among scientists, which to a large extent is a result of the weaknesses inherent in studies in this field, weaknesses of which the author first gives a critical analysis. Next, the results of a study among 60 teenage Ugandan children who had suffered severe malnutrition in early childhood are presented. Apart from intellectual abilities, motor development and daily behaviour of these children were also studied. On the basis of these findings, the author develops a theoretical framework that also accommodates the sometimes seemingly contradictory findings of the studies in other countries. It is shown that malnutrition is a crucial factor affecting the child's intellectual development. (AGRICOLA) *

352 **Hoorweg, J., Niemeijer, R.** 1980. *Nutritional impact of the pre-school health programme at three clinics in Central Province, Kenya.* Research report, no. 11, African Studies Centre, Leiden, NL. 69 p. (tables, map, figs., 38 refs.)

§ This report studies the effects of the Pre-School Health Programme (a nutrition program organized by Catholic Relief Services for Kikuyu children aged 6 months to 5 years) at three Kenyan clinics as ascertained by interviewing their mothers. Both long-term participants and recent attenders were assessed in terms of nutritional knowledge, maternal food preferences, food consumption of the children during the previous day, and children's nutritional status. It was found that both program components - nutrition education and the distribution of food rations - had discernible effects, although the latter is considered somewhat stronger. Copious statistical data are included. (SALUS)

353 **Hoorweg, J., Niemeijer, R.** 1980. *Impact of nutrition education at three health centers in central province. Kenya.* Research report, no. 10, African Studies Centre, Leiden, NL. 65 p. (35 refs.)

§ This report analyzes the effectiveness of nutrition education given at three Kenyan health centres in different ecological zones over the course of several years by nutrition fieldworkers, who were specially trained maternal and child health nurses. Surveys of frequent attenders and control groups revealed that, although the former appeared to be more aware of the need to supplement a young child's diet at an early age, there were no significant differences between them with regard to maternal food preferences, children's food consumption during the previous day, or children's nutritional status. Reasons for this failure are considered and statistical data are included. (SALUS)

354 **Hoorweg, J., Niemeijer, R., van Steenbergen, W.M.** 1983. *Nutrition survey in Murang'a District, Kenya. Part 1: relations between ecology, economic and social conditions, and nutritional state of pre-school children.* Research report, no. 19, African Studies Centre, Leiden, NL. 103 p. (tables, figs., maps, 37 refs.) ISBN 90-70110-37-7

§ The report presents findings of a longitudinal nutrition survey conducted in Central Province, Kenya, in 1978 as part of the Nutrition Intervention Research Project. The purpose of the project was to provide information on the impact of nutrition programs and to develop a model to evaluate such programs. The interrelationship between economic or social conditions and the nutritional status of preschool children in two ecological zones formed the conceptual focus of the research. On the basis of the presence of children aged 6-59 months, 300 households were chosen; 40% were classified as poor on the basis of limited involvement in the cash economy (they lacked commercial agriculture or regular male off-farm employment). Findings indicated that differences in the nutritional status of children between the two survey areas were minimal. It was found, however, that the incidence of children whose weight fell below 80% of the Harvard Standard (20% of the total sample) was closely related to socioeconomic status and family composition. Children from poorer households with more than two preschool-age children were particularly at risk. (F.M.)

355 **Hoorweg, J., Niemeijer, R., van Steenbergen, W.M.** 1984. *Nutrition survey in Murang'a District, Kenya: Part 2: nutritional cognition and the food consumption of the pre-school children.* Research report, no. 21, African Studies Centre, Leiden, NL. 99 p. (tables, figs., maps, 20 refs.)

§ This report gives details of the nutritional knowledge and preferences of mothers and the food consumption patterns of preschool children in two ecologically differentiated areas in Murang'a District. Individual food consumption is assessed both by the dietary recall and dietary record method, with primary reliance on data gained from 24-hour recall. Commenting on data reliability, the authors consider the recall method to be the more accurate in this situation. Findings indicate that mothers are in general aware of major principles of child nutrition and the treatment of diarrhea; in general, protein consumption is high in all age groups, but data show that food consumption patterns are strongly related to social class, and that children, aged 6-23 months, from poor households who are no longer breastfed are particularly vulnerable; formal education is positively related to nutritional knowledge, but the actual food consumption of children was not related to the level of maternal education; no variations were found in the energy or protein intake between children in the two ecological areas; the conclusion of part one, that malnutrition was related to economic conditions rather than knowledge, was supported. (F.M.)

356 **Huffman, S.L., Lamphere, B.B.** 1984. *Breastfeeding performance and child survival.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 93-116 (tables, figs., 116 refs.)

§ Focusing on the relationship between breastfeeding and child survival in different socioeconomic and cultural environments, the authors discuss: the effect of factors such as duration of breastfeeding, suckling pattern, dietary supplements, and infection load in the environment on the impact of breastfeeding; methodological issues in measuring nutrient intake associated with breastfeeding, the anti-infective properties of breastmilk, and the contraceptive effect of breastfeeding; and the differential impact of breastfeeding in different settings. The argument is made that an understanding of the mechanisms involved specific to different settings is required for effective policy development. (F.M.)

357 **Hull, H.F., Williams, P.J., Oldfield, F.** 1983. *Measles mortality and vaccine efficacy in rural West Africa.* Lancet, 1(8331), 972-975 (tables, 17 refs.) ISSN 0140-6736

§ Measles mortality and measles vaccine efficacy were determined during outbreaks in three Gambian villages. There were 146 cases of measles among 1073 children younger than 11 years of whom 30% had been vaccinated against measles. The attack rate in unvaccinated children aged 9-47 months was 43% compared with 6% for children of the same age with documented measles vaccination. Vaccine efficacy was 37% for children vaccinated at 6-8 months of age and 89% for children vaccinated at 9 months or older. Among the measles cases, 5% died before the initial investigation of the outbreaks and a further 10% died during the ensuing 9 months. Only 1% of children who did not contract measles died in the 9 months after the outbreaks. Case-fatality rates were highest for measles patients less than 1 year old (64%) and fell with age. Measles remains a significant source of acute and delayed mortality in unvaccinated African populations. (AU)

358 **Hulse, J.H., Pearson, O.** 1981. *The nutritional status of the population of the semi-arid tropical countries.* In Nutritional status of the rural population of the Sahel: report of a working group, Paris, France, 28-29 April 1980. International Development Research Centre, Ottawa, CA. pp. 86-92IDRC-160e

§ Having identified the general situation of caloric deficiency in the semi-arid tropics, the authors argue that national-level data must be disaggregated to define more clearly the nutritional status of the population. In this context, their comments focus on regional variations in food consumption patterns and the relationship between nutritional status and seasonality, income level, rural or urban residence, family size, environmental conditions, and infectious and other diseases. (F.M.)

359 **Hussain, M.A., Omololu, A.** 1983. *Maternal nutrition status and birthweight of infants in a Nigerian village between 1966 and 1975.* Nutrition Reports International, 27(5), 1005-1011 (tables, 24 refs.) ISSN 0029-6635

§ Relationships between maternal nutritional status before and during pregnancy and birth weight of infants were studied by examining the records of 615 pregnant women over the years 1966 to 1975 at Osegere, a typical village in western Nigeria. Maternal height and weight at 10 weeks and weight gain after 20 weeks of pregnancy were taken as indicators of maternal nutrition before and during pregnancy. The results showed that both weight gain during pregnancy and birth weight of infants were low and remained almost static during the decade under study. Birth weight was found to be correlated very strongly with maternal height, weight at 20 weeks, and weight gain after 20 weeks of pregnancy. Correlation between birth weight and maternal weight at 20 weeks and weight gain after 20 weeks remained significant even after elimination of the effects of maternal height and parity. (AU)

360 Idris, S., El Seed, A.M. 1983. *Measles vaccination in severely malnourished Sudanese children.* Annals of Tropical Paediatrics, 3(2), 63-67 (tables, fig., 13 refs.) ISSN 0272-4936

§ In a Sudanese study, the clinical and serological responses to attenuated measles virus vaccine were compared in 35 severely malnourished and 35 well-nourished children. The subjects were observed for 3 weeks following vaccination. The malnourished children developed higher fever of longer duration and had more lower respiratory tract diseases but fewer skin rashes. Seroconversion rates were 96% in the malnourished group and 92.6% in the well-nourished group. Antibody titres were lower in children who had marasmus and kwashiorkor than in the marasmic children. Statistical data are included. (SALUS)

361 IFORD (Institute for Training and Demographic Research). 1981. *Fertility and mortality levels in the United Republic of Cameroon in 1964.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR , 26 Nov-1 Dec 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 219-236 (tables) ST/ECA/SER.A/1

§ This paper is based on a study entitled "Synthèse des enquêtes démographiques au Cameroun." In the first part, the methodology of the survey is discussed with a view to determining the comparability and quality of the data. The second part concerns compilation and analysis of the results of regional surveys so as to obtain national data. The major difficulty lay in the heterogeneity of data sources. (AU modified)

362 Igun, U.A. 1982. *Child-feeding habits in a situation of social change: the case of Maiduguri, Nigeria.* Social Science and Medicine, 16(7), 769-781 (tables, figs., 22 refs.) ISSN 0277-9536

§ Interviews with 250 mainly nonliterate, low-income mothers attending a child health and antenatal clinic in Maiduguri, Nigeria, revealed that child-feeding patterns are characterized by a combination of traditional and Western methods. The latter were learned not from Western health practitioners, but from mass-media advertisements, which have influenced upper-class mothers to adopt bottle-feeding as a status symbol that lower-class women then try to emulate. Health workers are urged to combat this trend. (SALUS)

363 Isaac, B.L., Feinberg, W.E. 1982. *Marital form and infant survival among the Mende of rural Upper Bambara Chiefdom, Sierra Leone.* Human Biology, 54(3), 627-634 (tables, 10 refs.) ISSN 0018-7143

§ This article explores the possible relationship between marital form (monogamy versus polygyny) and reproductive success as measured by survival to 18 months among the live issue of 65 Mende women in nine villages of Upper Bambara Chiefdom, Sierra Leone. Using logit analysis, a version of log-linear analysis, the authors treat child survivorship to 18 months as the dependent variable and the age and marital form of the mother as independent variables. Although the independent variables are themselves strongly related ($p <$ 0.001 as measured by chi square), the survival of children to age 18 months is statistically independent of the age and marital situation of their mothers ($p = 0.477$). (AU)

364 Iyun, B.F. 1978. *Spatial analysis of health care delivery in Ibadan City.* University of Ghana, Legon, GH. 350 p. (tables, figs., maps, 101 refs.) PhD dissertation

§ The main focus was to find out the spatial pattern of the major health hazards in Ibadan, as measured from hospital records, and to examine how effective present health services are in coping with these problems. The greatest morbidity conditions are communicable diseases and diseases promoted by socioeconomic factors. Diarrhea, malaria, pneumonia, tubercolosis, chickenpox, eye diseases, malnutrition, anemia, and hypertensive heart diseases account for 50% of the total sample of reported cases. The pattern that emerged shows that 40.5% of the hospital patients were children aged 0-4 years, and 11.13% were children aged 5-9 years. The newer section of the city was mainly infested by viral-parasitic diseases (such as chickenpox and malaria) while the older section was infested mainly by diseases promoted by socioeconomic factors (malnutrition, anemia, pneumonia, tuberculosis). The historical background of health services in Ibadan shows that hospital location was influenced mainly by colonial segregation policy; easy accessibility to hospital staff; availability of land; economic factors; religion or humanitarian considerations. To a large extent, the catchment areas of the hospitals coincide with their hierarchical order. The conclusion reached is that the hospitals are not effectively coping with the health needs of the people. Recommendations are given. (AU abbrev.)

365 **Jackson, R.T., Latham, M.C.** 1978. *Lactose and milk intolerance in Tanzania.* East African Medical Journal, 55(7), 298-302 (tables, 13 refs.)

§ Data are presented on the prevalence of lactose intolerance among various population groups in Tanzania, as well as comparisons of the primary methods used in determining intolerance prevalence rates: the lactose tolerance test (LTT) and the milk load test. Intolerance among the Bantu and Masai was 92% and 62%, respectively, as measured by the LTT, while the milk load test gave a 77% intolerance among the Bantu. The data support the notion that the low level of milk intake is not primarily a function of intolerance but mainly of availability and price of milk. Although intolerant populations can drink nutritionally useful amounts of milk, this does not mean that where milk is in short supply, it should be imported. (AU)

366 **Jackson, R.T., Latham, M.C.** 1979. *Lactose malabsorption among Masai children of East Africa.* American Journal of Clinical Nutrition, 32, 779-782 (tables, 14 refs.) ISSN 0002 9165

§ There is much disagreement about milk and its use in feeding programs. A few authors suggest that milk consumption should not be encouraged in lactose intolerant populations due to adverse symptoms. Others suggest, however, that small or modest quantities of milk can be tolerated and can be nutritionally useful to such groups. Data are presented in this paper that show that the Masai regularly drink considerable quantities of milk without apparent symptoms; milk is an important constituent of the Masai diet; and 62% of 21 Masai examined were malabsorbers of lactose as measured by the lactose tolerance test. This finding of lactose malabsorption in a nomadic cattle raising and milk drinking people is interesting and is contrary to the views often expressed by anthropologists and others. An ability to drink nutritionally useful quantities of milk does not, however, necessarily mean that milk production or imports should be encouraged. (AU)

367 **Jager, E.** 1983. *Child growth in an Ashanti village, studied from the perpective of the social and economic position of the mother.* Groningen Demographic Reports, no. 7. Geographical Institute, Groningen State University, Groningen, NL. 97 p. (tables, figs., maps, 21 refs.)

§ The purpose of this research was to examine social and economic factors affecting child growth in the village of Odubi in the Ashanti-Akim area of Ghana. The research was part of a nutrition intervention program initiated under a primary health care program adopted by the nearby Agogo Hospital, the aim being to develop more appropiate health policies. A sample of 164 children and 58 mothers provided the basic data. Information was collected on: village society (food production systems, land ownership, environment); the nutritional status of under-5s (including food supply and feeding habits); economic aspects of child growth (household and maternal income); social factors (family structure, maternal workload). The author concludes that the help a mother receives in child care from her family and maternal income are important variables in quality of child health and growth. (F.M.) *

368 **Jain, S.K.** 1979. *The longitudinal mortality and fertility survey in the western region of Ghana: tabulations from the base-line survey 1974.* Department of Demography, Australian National University, Canberra, AU . 139 p. (tables)

§ This report gives the first set of tables from the baseline survey data collected as part of a multiround demographic survey to measure the incidence of mortality and fertility in a rural area of southwest Ghana in 1974. Data were collected from a sample of 5030 households and 6923 women. Information included census-type information on households and current (within the last 12 months) fertility and mortality data; a pregnancy history schedule, completed for each female respondent over the age of 12 years. Follow-up surveys were conducted in 1975, 1976, and 1977, and tabulations for each of these by the same author are available dated 1979. Questionnaire schedules are included with the data. (F.M.) *

369 **Jain, S.K.** 1981. *The longitudinal mortality and fertility survey in the western region of Ghana: analytical report.* Department of Demography, Australian National University, Canberra, AU. 230 p. (tables, maps, refs.)

§ This report contains an analysis of findings from a longitudinal mortality and fertility survey in the western region of Ghana, 1974-77, which was designed to measure levels and patterns of mortality and fertility in a rural community of about 20 000 people. The mortality analysis revealed that infant and childhood mortality rates obtained from death registrations were consistent with those rates obtained by pregnancy histories and child survival statistics. The study suggested an infant mortality rate of 100 per 1000 live births for boys and 84 for girls, equal childhood mortality rates for boys and girls (85-86), and a lower expectation of life at birth for men (45.8 years) than for women (52.8). (AU modified) *

370 **Jain, S.K.** 1982. *Mortality in Ghana: evidence from the Cape Coast Project data.* Population Studies, 36(2), 271-289 (tables, 16 refs.) ISSN 0032-4728

§ On the basis of data collected as part of the Cape Coast Project, 1974-77, several estimates of infant, child, and adult mortality rates are produced and discussed for this area of Ghana. Findings indicate that: mortality rates for children under 5 obtained from death registrations are similar to those obtained by indirect methods using data on children ever born and surviving; the infant mortality rate is 18% higher than the child mortality rate for boys, but the rates for girls do not illustrate this range; the infant mortality rate is lower for girls (84 per 1000 live births) than for boys (100 per 1000 live births). (F.M.)

371 **Jakobsen, O.** 1978. *Economic and geographical factors influencing child malnutrition: a study from the Southern Highlands, Tanzania.* Research paper, no. 52, Bureau of Resource Assessment and Land Use Planning, University of Dar-es-Salaam, TZ. 105 p. (tables, maps, figs., 50 refs.)

§ In view of the high rates of infant and child mortality, the purpose of this research was to study the relationship between child nutritional status and socioeconomic factors in four districts of rural Tanzania. Data were collected at both the village community level and at the level of the individual household. A framework for conceptualizing the factors influencing child malnutrition is presented. Findings indicate that nutritional status is negatively related to monetarization of agriculture, and in particular to the widespread adoption of cash crops. The author argues that where subsistence crop production decreases, with land use being turned over to cash crop production, the resources available to women to produce or to purchase food decrease. In turn this is linked with a deterioration in diet. (F.M.)

372 **Jancloes, M.F., van de Velden, L.** *Facteurs de variations saisonnières du poids chez des nourrissons à Pikine (Sénégal).* Dakar Médicale, 27(1), 168-172 (fig., 7 réf.)

§ Une étude longitudinale de 14 mois, menée auprès de 107 enfants âgés de 8 à 30 mois, a montré une brusque chute de poids au cours de la période précédant la saison des pluies. Les facteurs climatiques interviennent dans ce changement, mais leurs effets sur la morbidité, en particulier le paludisme, ne suffisent pas à expliquer ce phénomène. (AU)

373 **Jansen, A.A.J., Dijkhuizen, R.S., Lacko, E., Poulter, N., Nzioka, P.K. , Kiaraho, D.** 1982. *The nutritional status of Akamba children in Muumandu Sublocation, Machakos.* In Tukei, P.M., Njogu, A.R., Current medical research in eastern Africa: proceedings of the 3rd KEMRI/KETRI annual medical scientific conference, Nairobi, KE, 1982. pp. 201-205 (tables, figs., 6 refs.)

§ The results of a study of the nutritional status of 591 children aged 0-14 years in a sublocation in Machakos District are presented. Findings indicate that child growth during the first 6-8 months of life is "uneventful" owing to the adequacy of breastfeeding during this period. After this time, the nutritional status of the children declines. The authors relate the problem to socioeconomic and environmental variables in this more drought-prone area of Machakos. In light of community awareness of the nutritional problems, policy recommendations are made. (F.M.)

374 **Jelley, D.M., Madeley, R.J.** 1983. *Antenatal care in Maputo, Mozambique.* Journal of Epidemiology and Community Health, 37(2), 111-116 (tables, 5 refs.)

§ Mozambique has given priority to primary health care with a principal focus on maternal and child health. In 1980, an antenatal control form was introduced into all Maputo's antenatal clinics to monitor pregnancies and to help direct specialist care to mothers at greatest risk. In this study three health centres were selected from contrasting areas of the city. Almost 1000 completed antenatal forms were analyzed to determine incidence of risk and to evaluate the implementation of this strategy. It was found that a considerable number of women at risk were identified, referred, and successfully monitored through their pregnancy. Of those women at risk who were identified by the health centres, fewer than half were actually referred for specialist care. Those women at greatest risk were not the highest users of the services, and many of them underused the services compared with those at lower risk. The level of risk and child mortality varied with a measure of urban quality of the areas in which the centres were located. (AU)

375 **Jelley, D.M., Madeley, R.J.** 1984. *Primary health care in practice: a study in Mozambique.* Social Science and Medicine, 19(8), 773-782 (tables, 10 refs.) ISSN 0277-9536

§ Within the context of overall social and economic change, Mozambique has given priority to primary health care (PHC) delivery. In this study one of Maputo's recently opened health centres was investigated by observing all clinic sessions, interviewing all health centre workers, and collecting data from health centre records. It was found that a dichotomy exists between the tasks ascribed to the health centre in the PHC framework and the feasibility of their execution given existing personnel and material resources. This derives in part from lack of involvement of PHC practitioners in the organization and planning of PHC theory plus resource allocation which remains in favour of secondary and tertiary, rather than primary, care. Prevention is accorded priority in PHC theory, yet investigation showed that the major demand on the health centre is for curative care. The quality of both curative and preventive care was evaluated and the need for training in specialist diagnostic skills, and a more socially based understanding of the determinants of health status and risk emerged, respectively, for the groups of workers in the two sectors. The level of contact between the curative and preventive sectors was investigated as was the integration of the health centre into the health service as a whole. The problems arising in this area must be viewed in the context of the very recent development of a National Health Service in a country where, previously, curative care was available only in urban areas and virtually no preventive programs existed. This study shows that significant steps are being taken to develop a comprehensive PHC program in Maputo. (AU)

376 **Jelley, D.M., O'Keefe, P., Madeley, R.J.** 1984. *The uptake of preventive and curative child health services in Maputo, Mozambique.* Annals of Tropical Paediatrics, 4(3), 177-182 (tables, figs., 6 refs.) ISSN 0272-4939

§ This study seeks to analyze the uptake of preventive and curative child health services in three health centres in Maputo, Mozambique, selected from areas of contrasting environmental quality. Data were collected from over 6000 women attending the curative and preventive child health services at these centres. It was found that the women using curative services had significantly higher child mortality rates, had lived less time in Maputo, and had children of lower weight status than their counterparts attending for preventive care. Also, levels of child mortality were found to increase as environmental quality decreased. It is argued that the lower users of preventive care are, as in the U.K., precisely those who appear to have an increased risk of mortality and morbidity. It is concluded that integration between the curative and preventive health services must be increased to overcome the user inertia which militates against the poorer population using facilities for prevention to the best advantage. (AU modified)

377 **Jinadu, M.K.** 1983. *A case study in the administration of the expanded programme of immunization in Nigeria.* Journal of Tropical Pediatrics, 29(4),

217-219 (tables, 5 refs.)

§ The vaccination program carried out by the Oranmiyan local government is evaluated through data collected from mobile teams and static primary health centre records between 1977 and 1981. The low coverage of the eligible population (the highest proportion reached in any one year for either first or second doses being 20.4%) was attributed to the lack of community participation in planning and implementing the program; inadequate cooperation between the different health departments involved; a lack of publicity. (F.M.)

378 **Johnson, E.J., Goyea, H.S., Ogbeide, M.I.** 1980. *Nutritional status and weaning patterns of Benin City children.* East African Medical Journal, 57(6), 405-411 (9 refs.)

§ The nutritional status of a sample of 254 urban children in Benin City has been assessed by anthropometric measures. The children exhibit satisfactory height-for-age as compared with the Harvard Standards. Weight-for-age is satisfactory for the first year, but then drops suddenly in the second year to approximately 85% of the Harvard Standard. The mean weight-for-age of children in the third, fourth, and fifth years shows a gradual increase to a near-normal level. This relatively good nutritional status is due in part to favourable weaning practices. All children are breastfed. The great majority receive artificial milk supplements, although they are frequently introduced at an unnecessarily early age. The majority of children receive milk feeds (either breast or artificial) until at least 18 months of age. Food other than milk tends to be introduced at an early age, usually by 4 months. The weaning score, derived from the practices reported by the mothers shows a direct relationship to the weight-for-age of the sample children. In other words, children who have been weaned in what has been judged to be a satisfactory manner also tend to have a correspondingly satisfactory weight-for-age. (AU)

379 **Johnstone, F.D., Ochiel, S.O.** 1980. *Perinatal mortality at Kenyatta National Hospital, Nairobi.* East African Medical Journal, 57(2), 119-123 (tables, 3 refs.) ISSN 0012-835X

§ Over 18 months, 506 cases of perinatal mortality were studied at a Nairobi hospital. Findings indicate that prematurity was the leading cause of perinatal death. The mothers of many of these infants were very young, unmarried, had no antenatal care, and gave birth to infants of very low birth weight. The authors recommend that further research be conducted on the role of social and nutritional factors surrounding such births. (F.M.)

380 **Jordan, J.L.** 1977. *Rural health care and international development in Africa: with additional reference to Asia and Latin America.* Exchange bibliography, no. 1409. Council of Planning Librarians, Monticello, US. 38 p. (refs.)

§ The purpose behind this bibliography was to facilitate the access of planners and researchers in the area of health and agriculture to resources that examine the relationship between population growth and health and between improved health and increased productivity. Entries are classified under health and development; integrated delivery of rural health care; health and population; health planning; traditional medicine; maternal-child health; training of health personnel; the economics of disease. (F.M.)

381 **Kandeh, B.S.** 1979. *Infant and child mortality in Sierra Leone.* University Microfilms International, Ann Arbor, US. 275 p. (tables, figs., 47 refs.)

§ This study provides information on the levels, patterns, and differentials of infant and child mortality in Sierra Leone. Data were collected in a sample survey of currently married women (15-49 years of age) in five chiefdom headquarters towns in the Bo District of Sierra Leone, in February-July 1977. The level of infant and child mortality was determined by selecting the mortality schedule in a model life table from the 1q0 values obtained through two techniques. The first technique utilized data in the birth history file to produce probabilities of dying between birth and certain exact ages of childhood for three broad birth cohorts. The second technique used summary reports of children ever born, etc., to produce 1q0 values based on Trussell multipliers. The pattern of infant and child mortality was examined by comparing the relative mortality risks in infancy and at ages 1 to 4. The leading causes of death in infancy, early childhood (1-4), and before age 5 were also described. The demographic, social, economic, and environmental differentials were examined through the use of percentages, odd ratio, log linear, and rank order correlation analyses.

Based on the two techniques, the estimated infant mortality rate for the town of Bo was 155 for female children, and 178 for the remaining four towns also for female children. Tetanus was the leading cause of death in infancy, and in early childhood (ages 1-4), measles, diarrhea and fever-related diseases were the leading causes of death. The demographic factors (age of the mother at birth, order of birth of the child, and length of the preceding birth interval) showed their expected relationships to infant and child mortality. Of the three, the length of the preceding birth interval showed the strongest relationship. The social, economic, and environmental factors also largely showed their expected relationships to infant and child mortality. The mother's level of completed schooling showed the strongest relationship, followed by parents' ownership of certain consumer items and the parents' educational status. Policy implications are drawn from the analysis. (AU abbrev.)

382 Kandeh, B.S., Dow, T.E. 1981. *Estimates of infant and child mortality in the administrative areas of Sierra Leone.* Population Studies and Research Institute, University of Nairobi, Nairobi, KE. 11 p. (tables, maps, 20 refs.)

§ The provisional results of the 1974 census are analyzed using the Trussell modification of the Brass technique to provide estimates of infant and child mortality for all the administrative areas of Sierra Leone. The estimated infant mortality rate for the country is 238 per 1000 live births. For the administrative areas, the infant mortality rate ranges from 270 (southern) to 236 (northern) for the provinces and from 169 (western area) to 305 (Pujehun) for the districts. The probability of dying in early childhood (1-4 years) is over two-thirds that of dying in infancy, resulting in very high levels of under-5 mortality for the whole country. The q(5) value for Sierra Leone is 0.387. (AU)

383 Kandeh, B.S. 1985. *Mortality differentials in Sierra Leone.* Unpublished. 10 p. (11 refs.)

§ Using data from 1974 census results, the western area vital registration results, and two mortality surveys conducted by the author in 1980 and 1982, mortality levels, trends, and differentials in Sierra Leone are discussed. Findings indicated: a very high infant mortality rate of 215 per 1000 live births in 1971; a decline of 16.5% in infant and child mortality levels between 1962 and 1973; and considerable regional variations in infant mortality rates. (F.M.)

384 Kandeh, B.S. 1985. *Causes of infant and early childhood deaths in Sierra Leone.* Joint symposium in medical geography AAG and IBG, University of Nottingham, Nottingham, GB, 15-19 July 1985. 16p. (tables, 10 refs.)

§ Information about the causes of infant and early childhood (1-4 years) mortality was compiled from hospital records from the western area and from retrospective demographic sample surveys. A breakdown of certified deaths in infancy showed that 60% of neonatal deaths were accounted for by tetanus. Other causes of early infant mortality included fevers, measles, and diarrhea. Measles and diarrhea were the leading causes of death in the last 6 months of infancy. The leading causes of early childhood deaths were measles, diarrhea, and fevers. Discussion of these findings indicated that 70% of all deliveries in Sierra Leone are carried out by traditional birth attendants in frequently unhygienic surroundings leading to a high incidence of neonatal tetanus; childhood mortality is related to the poor nutritional status of the majority of children as shown by the results of the 1978 National Nutrition Survey. Policy implications are drawn. (AU modified)

385 Kandeh, B.S., Dow, T.E. 1985. *Levels and determinants of infant and child mortality in Sierra Leone: patterns and policy implications.* Project report submitted to the Ford-Rockefeller Population and Development Policy Research Program, (RF 77065 allocation no. 152/169), 197 p. (tables, figs., 38 refs.)

§ The general research objectives of this project were to calculate and map levels of infant, child, and adult mortality in the 148 chiefdoms of Sierra Leone using 1974 census data; to examine individual, cultural, and institutional factors or policies that may have determined, affected, or influenced observed mortality levels and differentials; and to indicate what current or prospective policies might reasonably be expected to have, in the shortest time and for the least cost, the greatest impact on mortality. The first stage, carried out at the macro level using aggregates for administrative areas, was mainly concerned with estimating and mapping mortality levels followed by a correlational analysis of these levels with certain key social variables. These were the distribution of medical facilities, the distribution of the population with no formal schooling, and malaria endemicity by district. For the second stage, a list of the 10 chiefdoms with the highest infant mortality rates and the 10 with the lowest was compiled and five chiefdoms were selected from each list going down the scale, omitting any whose headquarters were either district or provincial headquarters. A household survey was conducted in the headquarters towns of the selected chiefdoms, with the head of the household providing much of the information about household members and facilities, while women aged 12-49 years provided details about their children and breastfeeding patterns. (AU abbrev.)

386 **Kangah, D., Kouame, K.J., Howenou, Y., Timite, M., Dosso, M., Assi Adou, J.** 1981. *Les diarrhées aigues infantiles.* Médecine d'Afrique Noire, 28(12), 725-727 (tables, 5 réf.) ISSN 0465-4668

§ Suite à une étude en milieu hospitalier des aspects épidémiologiques, cliniques et bactériologiques des diarrhées aigues infantiles, les auteurs signalent les liens entre la maladie et l'état nutritionnel et les variables socio-économiques. (F.M. traduit)

387 **Karlin Feierman, E.** 1981. *Alternative medical services in rural Tanzania: a physician's view.* Social Science and Medicine, 15(3), 399-404 (8 refs.)

§ A physician evaluating health status among rural Tanzanian children examines the use of traditional and hospital-based medical care in the Usambra Mountains. The available services are used by most of the population, but poor relations between hospital-based and traditional practitioners create discomfort for the villagers and inhibit their attendance. It is suggested that relations can be improved by having both health workers and village women discuss problems at the village health committee, by encouraging traditional healers to participate fully on the committee and be trained to hold village health posts, by encouraging women to attend the clinic, and by eliminating the disparagement of traditional medicines in all clinics. (SALUS)

388 **Kasongo Project Team.** 1981. *Influence of measles vaccination on survival pattern of 7-35 month-old children in Kasongo, Zaire.* Lancet, 1(8223), 764-767 (tables, figs., 15 refs.)

§ In a zone with a high measles case-fatality rate the risk of dying between the ages of 7 and 35 months for a vaccinated population was compared with that for an unvaccinated control group. Life-table analysis for both groups showed that measles vaccination reduced the risk of dying at the age of maximum exposure to measles. The gain in survival probability, however, tended to diminish afterwards, to approach that of the unvaccinated group. (AU)

389 **Kazimi, L.J., Kazimi, H.R.** 1979. *Infant feeding practices of the Igbo, Nigeria.* Ecology of Food and Nutrition, 8(2), 111-116 (tables, 9 refs.) ISSN 0367-0244

§ A study of the pattern of infant feeding among the Nigerian Igbo tribe and attitudes of the mothers toward breastfeeding showed that 94% of all mothers breastfed their infants for at least 6 months, the duration of breastfeeding and the size of the family was inversely proportional to the educational achievement of the mothers, and 20% of the children had at least one attack of diarrhea before the age of 6 months. The prevalence of diarrhea and malnutrition and the high death rate could be attributed to the introduction of supplementary food too early under unsanitary conditions, the ignorance of the mothers as to the proper weaning diet, and the large number of children in most families. Statistical data are included. (AU modified by SALUS)

390 **Keller, W., Fillmore, C.M.** 1983. *Prevalence of protein-energy malnutrition/Prévalence de la malnutrition protéino-énergétique.* World Health Statistics Quarterly, 36(2), 129-167 (tables, figs., 43 refs.)

§ The objectives of this paper are to present more recent, detailed data on the prevalence of childhood protein-energy malnutrition than that presented in the 1974 Bengoa-Donoso study; and to introduce a process of evaluating progress toward health through the use of nutritional indicators. The main nutritional indicators discussed are: height-for-age, weight-for-age, weight-for-height. Extensive statistical data are presented as an initial step in establishing a baseline for use in evaluating and monitoring changes in health and nutrition. (F.M.)

391 **Kennedy, E.T., Cogill, B.** 1986. *Income and nutritional effects of the commercialization of agriculture: the*

case of Kenya. International Food Policy Research Institute, Washington, US. 180 p. (tables, figs., 28 refs)

§ This report summarizes the results of a project initiated in 1984 whose aims were: to assess the effect of cash cropping on the nutritional status of preschoolers and other family members; to evaluate the effects of cash-crop production on agricultural production, income, and food consumption; and to identify the mechanisms through which cash-crop production affects health and nutritional status. Chapter 1 provides an overview of the project and a conceptual framework which is used as the basis for analysis. Chapter 2 describes the study site (in South Nyanza), research design, and sampling procedure. Chapters 3-10 present the analytical results. The final chapter includes a synopsis of results and draws policy implications. (AU modified)

392 **Kenya. Central Bureau of Statistics, UNICEF (United Nations Children's Fund),** 1984. *Situation analysis of children and women in Kenya: sections 1-4.* Central Bureau of Statistics, Nairobi, KE. 417 p. (tables, figs., maps, 149 refs.)

§ On the premise that a multisectoral approach is needed to analyze the causes of situations in which children are at risk, and that focusing on the situation of women is important in this respect, an attempt is made to identify processes at different levels of society which produce, reinforce, and perpetuate poor living conditions. In the first two sections, the economic and political context for subsequent discussion is set. Section 3 concerns the roles and situation of women. Subsections focus on women as wives and bearers of children; as child caretakers, food providers, and carriers of burdens; as heads of households and farms; as primary, secondary, or tertiary level students; as participants in the labour force; as participants in community and mutual self-help activities. The final section, entitled "The wellbeing of children," discusses mortality; child health; and the nutritional status and education of children. Attention is drawn to regional differentials. (F.M.)

393 **Kenya. Ministry of Economic Planning and Development, Central Bureau of Statistics,** 1981. *Infant mortality in Kenya: trends and levels.* Social Perspectives, 5(2), 1-8 (tables, 9 refs.)

§ Based on the analysis of data on infant mortality, collected in the Kenya Fertility Survey (1979), an estimated infant mortality rate of 83-90 deaths per 1000 live births is discussed. The analysis of this data and data from previous sample surveys and censuses indicates a sharp decline in the infant mortality rate in the 1950s and 1960s with a leveling off in this decline since that period. (F.M.)

394 **Kenya. Ministry of Finance and Planning.** 1983. *Third rural child nutrition survey 1982.* UNICEF, Nairobi, KE. 79 p. (figs., tables, maps, 6 refs.)

§ This report is based on the third Rural Child Nutrition Survey carried out in 1982 in Kenya as a module with the Household Budget Survey, phase 1 of the National Sample Survey and Evaluation Programme. Anthropometric measurements were used to assess the nutritional status of 5323 children, aged 3-60 months, drawn from 2940 rural households. Data are presented where possible at the district level, in line with present government intentions of decentralizing planning to this administrative level. Information was gathered by questionnaire survey on three indices of nutritional status (height-for-age, weight-for-age and weight-for-height), household amenities, demographic characteristics of the mother, feeding practices, and child morbidity. Initial analysis of the relationships between nutritional status and socioeconomic, demographic, and morbidity variables is given. (F.M.)

395 **Kenya, P.R., Okoth, M.A.** 1984. *Epidemiological surveillance of health and nutrition for planning development and evaluation in Kenya.* Ministry of Health/UNICEF workshop on issues in health and nutrition development in Kenya, Kisumu, KE, 23-26 July 1984. 25 p. (tables, 17 refs.)

§ Different methods of collecting data on morbidity, mortality, and nutritional status in Kenya are assessed in this paper. Specific recommendations are made for: the collection of more precise data on health and nutrition; and the priority areas for nutrition research, in order that present health programs may be more adequately evaluated and more appropriate planning be developed for the future. (F.M.)

396 **Ketkar, S.L.** 1979. *Determinants of fertility in a developing society: the case*

of Sierra Leone. Population Studies, 33(3), 479-488 (tables, 10 refs.) ISSN 0032 4728

§ Using data from the household survey conducted in the western area of Sierra Leone in 1972 of a sample of 2000 households, this paper tests an extended version of the household model of fertility behaviour. The two new explanatory variables included in the model are extended family size and community child mortality rate. From regression analysis, tentative conclusions are drawn which have policy implications. An extended family system is related to an increased demand for children; thus, with urbanization and the breakdown of this system, fertility may decline. As women's education and labour force participation in occupations less compatible with child rearing increase, it is likely that fertility will decrease. The positive and statistically significant coefficients of the community child mortality rate imply that families respond to high child mortality rates by increasing fertility. (F.M.)

397 **Ketkar, S.L.** 1980. *Socioeconomic determinants of family size in Sierra Leone.* Rural Africana, 6, 25-45 (tables, 10 refs.)

§ This papers investigates the relationship between fertility and (1) the household's geographic location, its religion, migration status, and occupation; (2) the household's and women's income; (3) women's education; (4) the household's experienced and anticipated infant and child mortality; and (5) the size of the extended family. Data from a random sample of approximately 2000 households in the western area of Sierra Leone, collected by the Demographic Unit at Fourah Bay College, are used in the analysis. From an analysis of multiple regression coefficients the author concludes that the prevalence of the extended family system increases the demand for children. As this breaks down with urbanization, fertility can be expected to decline. Families respond to a high anticipated child mortality by opting for a large number of children. Any decline in this mortality rate is therefore likely to reduce fertility. In assessing the relationship between the valuation of female time and fertility, a woman's current income is a better proxy for the value of her time than is her educational attainment. This is because the variable of a woman's monthly income succeeds in differentiating between woman performing jobs that are increasingly incompatible with bearing and rearing children. With an increase in female income, fertility is found to decline. Policy implications are drawn. (AU modified)

398 **Keuzeta, J.J.** 1979. *Mortalité infantile et juvénile au Cameroun.* Communication présentée à la réunion d'enfants sur la fécondité et la mortalité : niveaux, schémas et tendances en Afrique et leurs implications sur la politique de développement, Monrovia, LR, 26 Nov.-1 Dec. 1979. 13 p. (tables, réf.)

§ Cette étude n'a pas été accomplie sans les problèmes usuels rencontrés au cours des études de ce genre dans une région africaine : données entachées d'erreurs, sous-enregistrement à l'état civil etc. Une analyse des tableaux et des données statistiques montre que la mortalité infantile est plus élevée pour le sexe masculin que pour le sexe féminin dans toutes les régions étudiées. D'autre part, la mortalité juvenile se stabilise pour les deux sexes. Néanmoins, les mortalités infantiles et juvéniles sont en diminution accélérée surtout pour la mortalité juvenile due à l'introduction dans le pays de quelques techniques plus raffinées dans le domaine de la médicine et dans les domaines thérapeutiques et prophylactiques. Les causes des décès communes pour la période étudie sont carences nutritionnelles, malnutrition et rugeole. Le tétanos ombilical s'est montré prédominant en cas de la mortalité infantile du aux traditions anti-hygéniques dès la sortie des maternités. (PIDSA)

399 **Keuzeta, J.J.** 1980. *Mortalité infantile et juvénile: niveaux observés dans quelques formations hospitalieres du Cameroun.* In Actes du colloque de démographie d'Abidjan. Institut de formation et de recherch démographiques, Yaoundé, CM. pp. 30-43 (tables, 5 réf.)

§ L'étude de la mortalité infantile et juvénile à partir des données de 42 hôpitaux du Cameroun révèle une morbidité infantile et juvénile plus élevée qu'aux autres âges due essentiellement aux maladies infectieuses et diarrhéiques et la malnutrition. Parmi, les affections communes incitant la surmortalité infantile figurent la rougeole, le paludisme, le kwashiorkor, le marasme, etc. On observe une surmortalité masculine chez les 0-4 ans. Par rapport, à la mortalité générale, la mortalité infantile et juvénile est encore très élevée pour les deux sexes (45 % des décès

enregistrés chez les hommes sont des décès d'enfants contre 47 % chez les femmes). Le taux de mortalité hospitalière est encore beaucoup plus élevée. Ces taux de morbidité et de mortalité peuvent être diminués et les affections éliminées moyennant un meilleur aménagement des équipements existants par exemple l'approvisionnement en eau potable pour les maisons et l'éducation des mères concernant la nutrition de leurs enfants, et plus important, encore des programmes de santé. (PIDSA)

400 **Keuzeta, J.J., Merlin, M., Kouka-Bemba, D., Sentilhes, L.** 1984. *Quelques aspects de la mortalité dans quelques villes des états-membres de l'OCEAC à partir des enquêtes de mortalité-morbidité par maladies diarrhéiques chez des enfants de moins de cinq ans.* Bulletin de liaison et de documentation, Hors série XVe conférence technique de l'OCEAC, Yaoundé, CM, 19-23 Nov. 1984. pp. 53-64 (tables, fig., 6 réf)

§ Les auteurs analysent les résultats de cinq enquêtes urbaines menées sous les auspices de l'OCEAC au Cameroun, en République centrafricaine, au Tchad, au Gabon et au Congo. L'objectif était d'évaluer l'effet de la diarrhée sur la santé et la morbidité infantiles et juvéniles. L'enquête a porté sur 29,050 enfants de moins de 5 ans. On analyse les résultats en tenant compte des différences entre les régions et entre les sexes. (F.M. traduit)

401 **Keuzeta, J.J., Merlin, M., Ambassa, P., Eteki, D., Sentilhes, L.** 1985. *Incidence des endémo épidemies au Gabon en 1984 à partir des fiches mensuelles OCEAC d'activités de surveillance épidémiologique.* Organisation de coordination pour la lutte contre les endémies en Afrique centrale (OCEAC), Yaoundé, CM. 15 p. (tables, fig., carte) 573/OCEAC/59/SEP/STAT

§ Les auteurs utilisent les données statistiques issues de la collecte de routine pour donner un aperçu du niveau de morbidité générale par maladies endémo-épidémiques dans le pays. Ce niveau est de 127 per 1000 dominé par trois grandes affections (81,5 % des cas notifiés) que sont le paludisme, les maladies diarrhéiques et les helmintiases. La place des maladies diarrhéiques comme première et deuxième cause de morbidité chez les enfants de 0-1 ans et 1-4 ans confirme au Gabon leur role déterminant dans les taux élevés de mortalité infanto-juvénile. Ces maladies diarrhéiques masqueraient en fait le facteur important de carences nutritionelles chez les enfants. (AU abrégé)

402 **Khan, A.A., Gupta, B.M.** 1977. *Social and economic factors in malnourished children around Lusaka, Zambia.* Tropical and Geographical Medicine, 29(3), 283-287 (tables, 17 refs.)

§ In 1975, 360 malnourished children were admitted to one of the units of the Children's Hospital, Lusaka. They were studied to determine the effects of various social, economic, and feeding habits in the evolution of protein-energy malnutrition. Malnutrition was found in 9.1% of the total admissions and was associated with a high immediate mortality (26.6%). The majority of children were in the 7-24 months age group. The majority of families were unitary and small, had a high level of illiteracy, and were from the slums of Lusaka. Breastfeeding was a general rule in spite of the urban status of most families. The study showed that the major factors that contributed to malnutrition were poverty and faulty weaning foods. Results were compared with other studies in Africa and India. Incidence of malnutrition can be reduced by increasing the economic level of the community and improving basic health services. (AU)

403 **Khan, A.A., Gupta, B.M.** 1979. *Study of malnourished children in Children's Hospital Lusaka (Zambia).* Journal of Tropical Pediatrics and Environmental Child Health, 25(2/3), 42-45 (tables, 12 refs.)

§ In interviews with the parents of 200 malnourished Zambian children admitted to hospital in 1976, information was collected on marital status, education, income source, size and type of family, area of residence, monthly food spending, and feeding patterns. The results are discussed and presented as statistical data. Because 68.5% of the children's families showed signs of social deprivation in addition to poverty and illiteracy, it is recommended that any social and nutritional rehabilitation program must involve the whole family, particularly the father, who controls food spending. (SALUS)

404 **Kimati, V.P., Loretu, K., Munube, G.M.R., Kimboi, F.** 1981. *The problem of measles virus response with reference to vaccine viability, age, protein energy malnutrition and malaria in the tropics.*

Journal of Tropical Pediatrics, 27(4), 205-209 (tables, 37 refs.) ISSN 0142-6338

§ The authors review research which has been conducted into measles morbidity and mortality and vaccine effectiveness in the tropics, with particular reference to Africa. The following recommendations are made: that measles vaccination begin at 8 or 9 months; that measles vaccine effectiveness be evaluated under field rather than research conditions; that the long held notion that measles vaccine is contraindicated in cases of severe protein-calorie malnutrition be reconsidered; that further research be conducted into the relationship between severe protein-calorie malnutrition, malaria, tuberculosis, and measles vaccine response. (F.M.)

405 **Kimati, V.P.** 1983. *Breastfeeding in rural and urban areas of Tanzania.* Journal of Tropical Pediatrics, 29(2), 119-123 (tables, map, 7 refs.) ISSN 0142-6338

§ A questionnaire survey to determine breastfeeding patterns in Tanzania was carried out by interviewing 2130 mothers in rural areas and 628 mothers who attended a baby show at the Aga Khan Hospital maternal and child health clinic in Dar es Salaam. Findings indicated that although prolonged breastfeeding (18-24 months) is practiced by the majority (71.3%) of rural mothers (in marked contrast to the urban sample), the trend toward bottle feeding in rural areas is growing. The policy implications of this trend are discussed. (F.M.)

406 **Kloth, T.I., Burr, W.A., Davis, J.P., Epler, G., Kolff, C.A., Rosenberg, R.L., Staehling, N.W., Lane, J.M., Nichaman, M.Z.** 1976. *Sahel Nutrition Survey, 1974.* American Journal of Epidemiology, 103, 383-390 (tables, map, 15 refs.) ISSN 0002-9262

§ In time of food shortage, accurate assessment of nutritional status is important so that effective aid may be directed to those in greatest need. Using a population proportional sampling method and the index weight-for-height as a criterion of nutritional status, investigators determined that about 10% of the sampled population of 3928 children (aged about 6 months through 6 years) in Mali, Mauritania, Niger, and Burkina Faso, and over 20% in the sampled population in Chad were severely and acutely undernourished. Apparently younger children were affected first, but as the food shortage became more severe the prevalence of undernourished older children increased. The benefits of this rapid technique for nutrition surveillance are discussed. (AU modified)

407 **Kocher, J.E.** 1979. *Rural development and fertility change in tropical Africa: evidence from Tanzania.* African Rural Economy Paper, no. 19, Department of Agricultural Economics, Michigan State University, US. Bureau of Resource Use and Land Use Planning, University of Dar es Salaam, TZ. 95 p. (tables, figs., 47 refs.)

§ The author presents a model for the effects of rural development on fertility. The essence of the model is that fertility is determined by both supply factors (health and cultural characteristics) and demand factors (incomes, prices) and that, in rural African societies and during early stages of rural development, fertility is determined largely by supply factors, while during later phases of development declining demand for children is likely to dominate. An important implication of this model is that, during the initial stages of rural development, the average number of surviving children per family will increase while the net effect on fertility is indeterminant. Using data from 1500 households in northeastern Tanzania, the relationships postulated in the model are tested by multiple regression. The R2s for the demand models are low and statistical relationships are generally weak. In contrast, the R2s for the supply models are large and the hypothesized relationships are supported at high levels of statistical significance. Implications for policy and research are discussed. (AU modified)

408 **Kpedekpo, G.M.** 1981. *Mortality.* In World Fertility Survey conference, London, GB, 7-11 July 1980: record of proceedings, vol. 2. International Statistical Institute, Voorburg, NL. pp. 473-502 (tables, 44 refs.) Fr, Es

§ This paper provides an overview of previous research on mortality and identifies priorities for future work. In Part I the author examines the strengths and weaknesses of existing research on mortality. Part II reviews the factors affecting mortality. These are considered under the groupings of environmental, nutritional, and personal behaviour factors. Part III deals with problems of data collection, analysis, and the comparability of mortality data from surveys.

Part IV highlights some of the recent findings on mortality levels, patterns, differentials, and trends, with particular attention to data from Africa. Part V suggests areas for further research on mortality. Among the needs identified are: model life tables applicable to mortality patterns in the Third World, Africa in particular; fuller information on causes of death; and more data on morbidity as well as mortality. (AU modified)

409 **Kroeger, A.** 1983. *Health interview surveys in developing countries: a review of the methods and results.* International Journal of Epidemiology, 12(4), 465-481 (138 refs.) ISSN 0300-5771

§ Health interview surveys are carried out to gain knowledge of people's perceived morbidity, their use of different kinds of health services, and their perceived need for health care. Many such studies in developing countries have failed to consider the methodological improvements that have been developed in health care research in recent years. In the first part of this paper, the research on methodological issues is summarized and the inherent problems in health interview surveys are stressed. Some specific requirements for cross-cultural research are described. The second part deals with health interview surveys carried out on a national, provincial, and local level in developing countries. Recommendations for a standardization of the methodology are given. (AU)

410 **Kuné, J.B.** 1980. *Some factors influencing the mortality of under-fives in a rural area of Kenya, a multivariate analysis.* Journal of Tropical Pediatrics, 23(3), 114-122 (table, fig., 26 refs.)

§ This paper deals with the impact of a number of environmental factors on the health status of children aged less than 5 years in the Machakos Project area, Machakos District, Kenya. Mortality is used as a measure. The observational period was April 1974 to April 1976. The estimation procedures were carried out by probit analysis. It appears that the mother's education, family relationships, and the child's sleeping conditions had a significant influence on the mortality of the children under study. (AU)

411 **Kusin, J.A., Voorhoeve, A.M., Jansen, A.A. , Lakhani, S., T'Mannetje, W.** 1979. *Longitudinal study of pregnant women in relation to outcome of pregnancy in Kenya.* Indian Journal of Nutrition and Dietetics (Coimbatore), 16(5), 195-205 (tables, figs., 28 refs.)

§ As part of the Machakos Project (Kenya), a pregnancy study was initiated in 1978 to monitor the health of pregnant women in the area and to assess the relationship between patterns of change in nutritional status during pregnancy and outcome of pregnancy, lactation performance, and infant growth. The findings are discussed and presented as statistical data. There were 361 infants born to 357 mothers and the percentage of abortions, stillbirths, neonatal deaths, and low birth weights was 1.4, 4.4, 2.5, and 6.3, respectively. The women in the study sample generally gained less weight than pregnant women in other developing countries. (SALUS)

412 **Kusin, J.A., van Steenbergen, W.M., de With, C., Jansen, A.A.J.** 1985. *Infant nutrition and growth in relation to maternal nutrition in rural Kenya.* Journal of Tropical Pediatrics, 31(1), 24-30 (tables, figs., 19 refs.) ISSN 0142-6338

§ Breast milk intake, amount of complementary foods consumed, and growth were assessed in breastfed infants, age 0-5 months. Two groups were compared: 46 infants from mothers with a low weight-for-height during pregnancy and lactation and 52 infants from mothers with a good weight-for-height in the same period. Complementary foods were introduced at 1-5 months of age. Breast milk intake was comparable in exclusively breastfed and mixed-fed infants. Energy and protein intake as well as growth of infants from undernourished mothers were not significantly different from those of well nourished mothers. Attained weight and length were acceptable for a wide range in timing of introduction of complementary foods. (AU abbrev.)

413 **Kusin, J.A., Kardjati, S., van Steenbergen, W.M.** 1985. *Traditional infant feeding practices: right or wrong?* Social Science and Medicine, 21(3), 283-286 (figs., tables, 31 refs.) ISSN 0277-9536

§ Infant feeding practices, breast milk and food intake, and postnatal growth in Madura, East Java, Indonesia, and Machakos, Kenya, are described. Breastfeeding is commonly practised. Additional foods are introduced in the first week postpartum in Madura and at age 2-3 months in Machakos. Growth started to falter at 2-3 months in Madura but was acceptable during the first 6 months in Machakos. It was felt that apart from breastfeeding and morbidity, other factors pertaining to a mother's perceptions about what infants should eat and her ability to make suitable weaning foods should be considered to understand the background of growth faltering. (AU)

414 Kwofie, K., Brew-Graves, E., Adika, G.H. 1983. *Malnutrition and pregnancy wastage in Zambia.* Social Science and Medicine, 17(9), 539-543 (maps, tables, figs., 24 refs.) ISSN 0277-9536

§ An analysis of recent nutritional status and dietary surveys in Zambia reveals a widespread prevalence of malnutrition. Pregnant women suffer from serious protein inadequacy. Varations in the nutritional status of the population is shown to vary spatially with respect to different ecological conditions and to the level of socioeconomic development within each province. Because of the interdependence between nutritional health of the mother and outcome of pregnancy, there is reason to believe that the prevailing malnutrition among pregnant women may be responsible, not only for lower birth weight and congenital malformations, but also for increased maternal and perinatal mortality and morbidity in Zambia. Long-term solutions lie in the integration of nutrition concerns into sectoral development strategies, a reduction in income disparities between the rural and urban areas, and innovative attempts to improve the efficiency of rural health institutions in the country. (AU modified)

415 Laditan, A.A. 1976. *Some clinical data of prognostic importance in protein-calorie malnutrition.* Tropical and Geographical Medicine, 28(3), 216-219 (table, fig., 8 refs.)

§ The mortality rate in 94 children who presented the classical features of protein-caloric malnutrition (PCM) during the first 6 months of 1975 has been subjected to analysis. The sample differentiates between children from upper and lower socioeconomic levels. The prognostic value on mortality of severe body-weight deficit and the presence of acute diarrheas, electrolyte disturbance, and accompanying measles has been shown. The existence of edema and chronic diarrhea has no influence on mortality. Similarly, age and the type of PCM could not be implicated as being responsible for the observed mortality. (AU modified)

416 Laditan, A.A., Reeds, P.J. 1976. *Study of the age of onset, diet and the importance of infection in the pattern of severe protein-energy malnutrition in Ibadan, Nigeria.* British Journal of Nutrition, 36(3), 411-419 (tables, fig., 16 refs.)

§ A study of 50 Nigerian children with protein-caloric malnutrition indicates that it is possible that the history of growth in the first year of life influences the final form of nutrition-related disease the child will have: values obtained for the deficit in length-for-age suggests that the children with marasmus had been undernourished from birth, while the children with kwashiorkor had apparently grown normally until the age of 10 months. Also, their similar dietary histories but dissimilar histories of infection suggest that recurrent diarrhea was at least partially responsible for the chronic undernutrition of the marasmic children. Statistical data are included. (SALUS)

417 Lakhani, S., Jansen, A.A.J. 1984. *Opinions about breastfeeding amongst middle-income African and Indian women in Nairobi.* East African Medical Journal, 61(4), 266-271 (12 refs.) ISSN 0012-835x

§ The purpose of the research was to ascertain maternal attitudes to breastfeeding on the part of middle-income urban African and Indian women who attended an antenatal clinic at a private hospital in Nairobi. In-depth interviews were conducted with 100 women. Findings indicated that there were uncertainties, particularly among Indian women, as to the advantages of breastfeeding and that hospital procedures actively interfered with the promotion of breastfeeding. (F.M.)

418 Lallemand, S. 1981. *Pratiques de maternage chez les Kotokoli du Togo et les Mossi de Burkina Faso.* Journal de la Société des Africanistes, 51(1-2), 43-70 (tables, réf.) En

§ Le maternage est conçu comme un compromis entre les activités (économiques, sexuelles), les valeurs (religieuses, morales) des adultes d'une part, et les besoins de l'enfant d'autre part. Deux systèmes de maternage de populations rurales sont comparés sous l'angle : de la durée et du mode d'allaitement; de l'introduction de l'alimentation diversifiée; des procédés du sevrage; de la surveillance par un tiers du bébé; du role des décoctions; de l'apprentissage à la maîtrise sphinctérienne et vésicale. Les points de convergence et les différentes constatées dans les pratiques renvoient aux choix effectués entre travaux de production et de reproduction, ainsi qu'aux représentations éthniques et mythiques; il permettent d'esquiser les objectifs spécifiques de ces deux sociétés concernant la petite enfance. (AU)

419 **Lamb, W.H., Foord, F.A., Lamb, C.M.B., Whitehead, R.G.** 1984. *Changes in maternal and child mortality rates in three isolated Gambian villages over ten years.* Lancet, 2(8408), 912-914 (tables, 5 refs.)

§ As an adjunct to the general nutrition research program, the Medical Research Council Dunn Nutrition Unit has provided for the past 10 years a continuous medical service to three adjacent rural Gambian villages. There have been substantial reductions in childhood mortality rates. Annual perinatal mortality fell from 109.6 to 45.5 per 1000 births, infant mortality from 148.5 to 24.5 per 1000 live births, and mortality in children aged 1-4 years from 109.1 to 13.3 per 1000. There have been no pregnancy-related maternal deaths in the community for 8 years; 16 could have been expected given current estimates of maternal mortality elsewhere in rural Gambia. Of all the health and nutritional interventions introduced, the single most important factor has apparently been on-the-spot, 24-hour availability of a physician or qualified midwife. (AU)

420 **Laoye, J.A.** 1981. *Selling health in the market place.* World Health Forum, 2(3), 367-372 (3 refs.)

§ A team of Nigerian health educators set up a primary health care stall in the local market in a village 100 km north of Lagos. Subsequent local involvement resulted in the formation of a village health committee which included both midwives and traditional healers. Local responsibility for health resulted in significant improvements in aspects of community health which included improved water supplies, environmental care, and more widespread acceptance of a vaccination program. (F.M.)

421 **Larchet, M., Cosnard, G., Joullie, M.** 1977. *Centre de réhabilitation infantile et d'éducation nutritionnelle de Ouahigouya (Haute-Volta).* Médecine Tropicale, 37(3), 255-274 (fig.)

§ Le Centre de réhabilitation infantile et d'éducation nutritionnelle à Ouahigouya (Burkina Faso) traite les jeunes enfants qui souffrent de carence en protéines et en calories et apprend aux mères à cultiver et à préparer les aliments locaux nutritifs. L'effectif du Centre comprend une infirmière, qui examine les malades et prescrit des traitements, et deux moniteurs de la santé, qui s'occupent principalement d'éducation. Le traitement consiste à donner aux enfants un ragoût préparé par les mères dans des conditions semblables à celles qui existent dans leurs villages. Une étude a été menée dans le but de déterminer quelques-unes des caractéristiques des 435 enfants admis au Centre au cours d'une période d'un an et les effets du traitement sur 390 d'entre eux. On a constaté que 55 % des enfants admis étaient agés de 6 à 12 mois. Des 390 enfants suivis, 6 avaient atteint la norme à l'issue de la période; 87 (27 %) avaient eu des augmentations d'au moins 10 % de la norme; 131 (40 %) des augmentations de poids de 5-9 %, et 93 (28 %) des augmentations de poids d'au plus 5 %; 26 (5 %) avaient maigri et 27 (7 %) avaient perdu la vie vu qu'ils étaient restés insensibles au traitement. Les résultats semblent peu impressionnants sauf si l'on tient compte du fait que le Centre ne vise pas un rétablissement total mais cherche plutot à montrer aux mères la façon de l'atteindre. Sur 64 enfants retracés après la sortie de l'hôpital, 55 allaient régulièrement aux cliniques pour enfants et 49 avaient une meilleure nutrition. Etant donné l'age de la plupart des enfants admis au Centre, on encourage les mères à ajouter à l'allaitement des aliments solides dès le sixième mois. (SALUS traduit)

422 **Lashman, K.E.** 1975. *Syncrisis: the dynamics of health; an analytic series on the interactions of health and socioeconomic development. XIV Zaire.* Office of International Health, Department of Health, Washington, US. 178 p. (tables, refs.) DHEW publication no. (05) 7550,019

§ This monograph on health conditions in Zaire discusses the following topics: population characteristics and dynamics; health status, including living conditions and endemic diseases; health programs, including maternal and child health and rural health programs; nutritional status and malnutrition; health infrastructure, including a discussion of health facilities, services, and training of medical personnel; national health planning and expenditure; and external assistance in the health sector. (F.M.)

423 **Latham, M.C., Winikoff, B., Van Esterik, P.** 1984. *Infant feeding patterns and women's employment.* In The determinants of infant feeding practices: preliminary results of 4-country study. International Programs, working paper no. 19, Population Council, New York, US. pp. 57-77 (tables, figs.)

§ Much research on the relationship between infant feeding practices and maternal employment is based on studies that ask women to identify their reasons for discontinuing breastfeeding. In contrast, this study concerns the correlation between employment status and feeding practice. Data were obtained from over 4000 mother-infant pairs in Bangkok, Bogota, Nairobi, and Semarang. Findings indicate that for a woman working away from home working conditions (hours of work, remuneration, type of work), work scheduling (including the time spent away from home), and work pattern (informal or formal) influence infant feeding practices. The authors discuss policies which could enable women's multiple responsibilities to be compatible. (F.M.)

424 **Latham, M.C.** 1984. *Strategies for the control of malnutrition and the influence of the nutritional sciences.* Food and Nutrition, 10(1), 5-31 (tables, figs., ill. 67 refs.)

§ This article reviews literature on protein-energy malnutrition, iron deficiency anemia, vitamin A deficiency, iodine deficiency, and on current knowledge which can influence strategies for their control. Discussion includes some of the basic or underlying causes of these problems, because attention to these is essential if there is to be a major reduction in malnutrition in the remaining years of this century. The immediate cause of each form of malnutrition is a nutrient deficiency, but the solution involves social, economic, agricultural, and political actions. (AU modified)

425 **Lauber, E., Reinhardt, M.C.** 1979. *Studies in the quality of breast milk during 23 months of lactation in a rural community of the Ivory Coast.* American Journal of Clinical Nutrition, 32(4), 1159-1173 (tables, figs., 73 refs.) ISSN 0002-9165

§ Milk samples from 33 women from a rural area of the Côte d'Ivoire were analyzed once a month. In two longitudinal studies covering 23 months of breastfeeding, analyses of lipid components and protein were performed. No overall appreciable change was found in the quality of the milk over the 23 months except for a significant decrease (30%) in protein concentration over the first semester of lactation. Infants were growing well on breast milk with nothing else for the first 5 months, but thereafter their growth rates were no longer satisfactory as judged by Western (weight-for-age) standards. This may suggest that total protein intake is not optimal. It is recommended that locally produced foods with a high protein content be used as a supplement after the age of 5 months. (AU modified)

426 **Lauber, E., Reinhardt, M.C.** 1981. *Prolonged lactation performance in a rural community of the Ivory Coast.* Journal of Tropical Pediatrics, 27(2), 74-77 (tables, figs., 27 refs.) ISSN 0142-6338

§ In the village of Kpouébo, Côte d'Ivoire, the volume of milk ingested by 37 infants in their natural environment during 18 months of breastfeeding was assessed by weighing the infants before and after each feed over a 12-hour period 1 day per month. The 12-hour volume decreased from an initial 500 mL at age 1 month to 385 mL at age 18 months. According to the Harvard standard, growth was satisfactory on breast milk alone up to age 5 months. No case of failure to breastfeed was observed. It is suggested that nutrition education should stress the need for locally produced weaning food from age 6 months onward, without, however, undercutting the importance of breastfeeding beyond 6 months. (SALUS)

430 **Laukaran, V.H., Kellner, E.K., Winikoff, B., Solimano, G., Latham, M., Van Esterik, P., Post, J.** 1981. *Research on determinants of infant feeding practices: a conceptual framework.* International Programs, working paper, no.15, The Population Council, New York, US. 31p. (figs., 71 refs.)

§ This paper presents an interdisciplinary conceptual model which has served as the framework for development of a study of infant feeding practices among low-income urban women in four developing countries (Colombia, Kenya, Indonesia, and Thailand). The model depicts the hypothesized relationships between several groups of possible determining factors and specific infant feeding practices. The study explores the impact of biological factors, health services, women's employment, and the structure and marketing practices of the infant food industry on infant feeding decisions. Dependent variables measured include initiation and duration of breastfeeding, timing of supplementation and introduction of solids, specific milks and foods fed to infants, and morbidity history, weight, and height of the index child. The study design integrates several methodologies drawn from the disciplines of anthropology, epidemiology, and market research. These include participant observation, key informant interviews, cross-sectional survey, and secondary data analysis. (AU)

428 **Laukaran, V.H., Van Esterik, P.** 1984. *Maternal knowledge and attitudes toward breastfeeding and use of breastmilk substitutes.* In Research Consortium for the Infant Feeding Study. The determinants of infant feeding practices: preliminary results of a four-country study. International Programs working paper no. 19, Population Council, New York, US. pp. 79-97 (tables)

§ As part of a study on the determinants of infant feeding practices conducted in Nairobi, Bangkok, Bogota, and Semarang, two sources of data were collected to explore knowledge and attitudes about infant feeding: a limited ethnography was carried out in each site to explore the cultural knowledge and the attitudes of women in each community; survey modules on knowledge and attitudes about infant feeding pertinent to the local situation were then developed in consultation with the ethnographic team. Findings are presented and policy implications are drawn. (AU modified)

429 **Lavrijsen, G., Jansen, A.A.J.** 1983. *Childfeeding survey at Kimalewa Health Centre.* Kenya Nursing Journal, 11(1), 34-37 (tables, 2 refs.) ISSN 0301-0333

§ In July and August 1980, 150 mothers with children under the age of 3 were interviewed at a health centre in Western Province, Kenya, to collect data on child feeding patterns. The objective was to analyze the relationship between child feeding practices and protein-energy malnutrition. The authors conclude that the late introduction of solid foods was an important factor contributing to the prevalence of malnutrition. They suggest that a long-term nutrition program, in which the Ministries of Health, Agriculture, Education, and Social Services collaborated, was needed. (F.M.)

430 **Le François, P., Chevassus-Agnes, S., Bénéfice, E., Dyck, J.L., Maire, B., Parent, G., Seymat, G., Ndiaye, A.M.** 1980. *Vitamin A status of three West African countries.* International Journal for Vitamin and Nutritional Research, 50, 352-363 (table, map, 33 refs.)

§ The results of food consumption surveys and epidemiological surveys (clinical and biochemical) undertaken in three West African countries have established the existence of xerophthalmia in Burkina Faso; a transitory vitamin A deficiency during the dry season in south Mali without serious clinical signs; and a good vitamin A status in Casamance, south Senegal. A combined biochemical indicator which takes account of plasma carotenoids and vitamin A is recommended to assess the importance of vitamin A deficiency in a population.

431 **Le François, P., Chevassus-Agnes, S.** 1983. *Alimentation complémentaire de 38 nourrissons sénégalais.* Annals of Nutrition and Metabolism, 27(3), 199-204 (tables, 9 réf.) En ISSN 0250-6807

§ Une enquête de consommation alimentaire par pesée a été faite pendant 3 jours chez 38 nourrissons sénégalais âgés de 6-12 mois et habitant la banlieue de Dakar afin d'apprécier la part de l'alimentation complémentaire dans la couverture de leurs besoins nutritionnels. Les apports recommandés en énergie et en protéines sont satisfaits respectivement à 49 et à 74 %. Les autres besoins nutritionnels sont couverts à des niveaux variables: calcium 38 %, fer 24 %, vitamine A 39 %, B1 51 %, B2 43 %, PP 82 %, C 54 %, folates 8 %, B12 263 %. En tenant compte de l'estimation des apports assurés par le lait maternel, les apports recommandés en énergie et en protéines sont satisfaits pendant la période étudiée. (AU)

432 **Leeuwenburg, J., Gemert, W., Muller, A.S., Patel, S.C.** 1978. *Machakos Project studies: agents affecting health of mother and child in a rural area of*

Kenya: VII: the incidence of diarrhoeal disease in the under-fire population. Tropical and Geographical Medicine, 30(3), 383-391 (tables, figs., 14 refs.)

§ The outcome of 3 years of fortnightly diarrhea surveillance of approximately 4000 children aged less than 5 years in a Machakos, Kenya, project is described. The incidence of diarrhea in children aged 0-5 months, 6-11 months, and 12-23 months, who were reported or observed to be ill during a 2-week period, was 3.4%, 5.6%, and 3.4%, respectively. When mothers were questioned about their children's health, there was a four- to sevenfold increase in the incidence of diarrhea, which appears to be a common condition that is not necessarily considered an illness by the mother. Statistical data are included. (SALUS)

433 **Leeuwenburg, J., Gemert, W., Muller, A.S., Patel, S.C.** 1984. *The incidence of diarrhoeal disease.* In van Ginneken, J.K., Muller, A.S., Maternal and child health in rural Kenya: an epidemiological study. Croom Helm, London, GB. pp. 109-118 (tables, figs., 13 refs.) ISBN 0-7099-2608-1

§ As part of the Machakos Project Study, the research documented here concerns the morbidity and mortality in children up to the age of 4 from acute diarrheal disease. The longitudinal population-based study involved keeping surveillance records for 4000 households visited every 2 weeks. The main findings indicate: the age group, 6-11 months, having the highest incidence of diarrhea is coincident with the initial period of weaning; mortality resulting from diarrhea and vomiting amounts to 15% of this age group, a figure which compares with 13% for measles; the incidence of diarrhea in children under the age of 5 with measles is nine times higher than that in children without measles; there is no relationship between seasonality and diarrhea. (F.M.)

434 **Leeuwenburg, J., Muller, A.S., Voorhoeve, A.M., Gemert, W., Kok, P.W.** 1984. *The epidemiolgy of measles.* In van Ginneken, J.K., Muller, A.S., Maternal and child health in rural Kenya: an epidemiological study. Croom Helm, London, GB. 77-99 (tables, figs., 16 refs.) ISBN 0-7099-2608-1

§ As part of the Machakos Project study, the aim of the research reported here was to collect accurate population-based data on measles epidemiology with a view to suggesting specific policy recommendations for vaccination programs. In addition to data on age-specific incidence and mortality from measles, information was collected on secondary attack rates within households and on the spatiality of the disease. Data were collected fortnightly over a 7-year surveillance period. The authors contend that although seroconversion rates after vaccination improve with age, as the incidence of measles peaks between 9-10 months a compromise is needed. They suggest that vaccination be carried out at the age of 9 months on the basis that: the same degree of protection against measles would result from vaccinating at 8 months (79% reduction), 9 months (84% reduction), and 10 months (82% reduction); 85% of all measles deaths occurred in children over the age of 9 months; the number of expected vaccine failures decreased from 15% at 8 months to 7% at 9 months of age. Analysis also indicated that no statistically significant differentiation in nutritional status existed between those who survived and those who died from measles. Data showed the spatial spread of measles to be related to secondary attack rates within households, in turn conditioned by the age-specific mobility of children. Methodological issues are discussed. (F.M.)

435 **Legrain, G., Cap, M.** 1980. *Nutrition et santé des enfants aux Iles du Cap-Vert.* Environnement Africain, 4(2,3,4), 111-130 (cartes, fig., tables)

§ L'étude effectuée sur la nutrition et la santé des enfants aux iles du Cap-Vert révéle des disparités énormes entre la vie des enfants et entre les iles. La mortalité varie selon le groupe d'âge et selon la saison. La mortalité en bas âge est élevée pour le groupe 0-6 mois et 47 % de tous les décès frappe les enfants de 0 à 4 ans. Une surmortalité survient aux troisième et quatrième trimestres qui correspondent aux saison des pluies. Les disparités dans la situation nutritionnelle présente des écarts sensible d'une ile à l'autre et aussi d'une zone à l'autre dans la même ile. Partout au Cap-Vert, la malnutrition est plus élevée pour le groupe d'âge 7-15 ans que pour le groupe 0-6 ans. A Santiago et à Fogo la malnutrition au plus jeune âge est un peu plus élevée affectant 40 % des enfants. Les taux de malnutrition et de mortalité sont tous les deux plus grave à l'intérieur d'une ile que dans les villes dûs au problème de l'inaccessibilité aux postes sanitaires at aux agents de santé. (PIDSA)

436 **Lemoine-Coquelet, M.** 1978. *La mortalité de la petite enfance au Gabon.* Comité des travaux historiques et scientifiques, Bulletin de la Section de Géographie, 83, 37-73 (tables, réf.) ISSN 0071-8432

§ En dépit d'un revenu per capita relativement élevé, d'un nombre convenable de médecins par habitants, et d'un taux de fréquentation scolaire élevé, le Gabon connait l'un des plus forts taux de mortalité infantile lorsque comparé aux autres pays subsahariens. L'auteur analyse la mortalité infantile au Gabon en fonction des facteurs socio-économiques, du lieu de résidence (urbaine ou rurale) et de l'environnement physique. Il examine le rôle des maladies, tropicales et autres, dans l'environnement gabonais, puis fait une étude critique des services de santé et examine dans quelle mesure ils répondent adéquatement aux besoins sanitaires des enfants. (F.M. traduit)

437 **Lepage, P., Munyakazi, C., Hennart, P.** 1981. *Breastfeeding and hospital mortality in children in Rwanda.* Lancet, 2(8243), 409-410 (table, fig., 15 refs.)

§ The relation between breastfeeding and mortality among 2339 children under 2 years old and admitted to hospital with measles, diarrheal disease, or acute lower respiratory disease was analyzed over a 2-year period in Kigali, Rwanda. Case fatality rates were significantly lower in the breastfed than in the completely weaned children for all three diseases. This advantage held for all 6-month age groups. (AU)

438 **Lesi, F.E.A.** 1978. *Infant mortality, diet and disease in Nigeria.* Nigerian Medical Journal, 8(2), 114-118 (13 refs.)

§ This review-type discussion considers some of the problems associated with the poor level of nutrition and high incidence of disease in Nigeria, particularly in the rural areas. Infants are breastfed by undernourished mothers, with weaning not until 2 years in some cases. Possible ways of overcoming some of the problems are discussed. (CAB Abstracts)

439 **Lesotho, Ministry of Planning and Statistics,** 1981. *Lesotho fertility survey 1977. Volume 1: First report. Volume 2: Statistical tables.* Central Bureau of Statistics, Ministry of Planning and Statistics, Maseru, LS. (tables, figs., refs.)

§ General information on the geography, demography, and economy of Lesotho is given as a background for discussion of survey findings. The methodology of the fertility survey is presented in detail. A discussion of the main results is ordered as follows: characteristics of household and individual samples; nuptiality; fertility; preference for number and sex of children; mortality; family planning; and noncontraceptive factors affecting fertility (including breastfeeding). With respect to infant and child mortality, results show that the level of infant mortality is over 110 per 1000 live births; the rate for males is higher than for females; levels of infant and child mortality have declined in general since the 1940s; and maternal education is negatively associated with child mortality. (F.M.)

440 **Lesthaeghe, R., Ohadike, P.O., Kocher, J., Page, H.J.** 1981. *Child-spacing and fertility in sub-Saharan Africa: an overview of issues.* In Page, H.J., Lesthaeghe, R., Child-spacing in tropical Africa: traditions and change. Academic Press, London, GB. pp. 3-23 (figs., 25 refs.) ISBN 0-12-543620-3

§ The writers argue that modernization processes may result in more complex patterns of fertility than are indicated by summary fertility indices. The latter are generally based on correlations or differentials between socioeconomic and cultural variables and aggregate fertility measures. It is suggested that an analysis based on an intermediate fertility variable framework (which includes level and age profile of fecundability and the incidence of sterility; the level and age profile of the risk of abortion; and the length of the postpartum nonsusceptible period, as related to lactation and postpartum abstinence) offers insight into the dynamics of the relationship. (F.M.)

441 **Lesthaeghe, R., Page, H.J., Adegbola, O.** 1981. *Child-spacing and fertility in Lagos.* In Page, H.J., Lesthaeghe, R., Child-spacing in tropical Africa: traditions and change. Academic Press, London, GB. pp. 147-179 (tables, figs., 13 refs.) ISBN 0-12-543620-3

§ Data from the Lagos Parity Study of late 1976, for 1848 women stratified by education, are used to identify patterns of child spacing and their fertility implications. Methodological aspects, including checks for internal consistency in the data, are first discussed. Women with secondary education breastfed for only 5.4 months on average, and experienced amenorrhea for 2.8 months, compared with 15.7 months breastfeeding and 10.2 months of amenorrhea for uneducated women. Postpartum abstinence lasted 6.7 months for women with secondary education compared to 18.7 months for the uneducated. Secondary education levels are associated with birth intervals that are shorter by 6 months. When the link between education and duration of breastfeeding and postpartum abstinence is explored, it is found that most of the variation enters at low levels of education and that about half the original difference between the educational categories remains after adjusting for the separate effects of other economic, cultural, ethnic, and religious factors. Women at three educational levels achieve essentially the same overall fertility level by age 35, but by using very different means. Later marriage, shorter birth intervals, and probable earlier termination of childbearing by the more educated are likely to lead to lower fertility in the long run. (POPLINE abbrev.)

442 Lesthaeghe, R., Vanderhoeft, C., Becker, S., Kibet, M. 1983. *Individual and contextual effects of female education on the Kenya marital fertility transition.* Working paper no. 9. Interuniversity Programme in Demography, Vrije Universiteit, Brussel, BE. 19 p. (tables, figs., 11 refs.)

§ Using data from the Kenya Fertility Survey of 1977-78, and in the context of fertility transition theory, the authors test the hypothesis that an additional year of female education will have a positive effect on fertility (indicative of the first stage of the transition), in areas with low aggregate education, and that it will have a negative effect where the educational level is generally higher (indicative of the second stage). Attention is paid in particular to the interaction between individual and contextual effects of female education on fertility, on the length of breastfeeding, and on contraceptive use and efficiency in the different regions of Kenya. The main conclusion is that, although recent increases in female education have led to increased fertility, this trend is in the process of being reversed in many areas, and will be facilitated through the fact that further female education will take place in the context of already higher educational levels. (F.M.)

443 Leton, C. 1980. *Variations saisonnières des décès infantiles dans l'ouest du Zaïre.* In La mortalité des enfants dans le tiers-monde : orientations et méthodes de recherche. Ordina Editions, Liège, BE. pp. 173-183 (tables, 3 réf.) ISBN 2-87040-017-9

§ Basé sur un échantillon de 205,000 individus répartis dans les zones urbaines et rurales des quatre grandes régions de l'Ouest du Zaïre et une enquête à un seul passage, l'auteur examine les variations saisonnières des décès infantiles. Il conclut qu'il y a un schéma saisonnier de la mortalité infantile, légèrement renforcé par un schéma saisonnier de la natalité : les mois de surmortalité correspondent à la saison sèche. Le questionnaire, tel qu'il était composé, n'a pas permis de savoir quelles sont les causes de décès liés à cette saison. (AU modifié)

444 Liljestrand, J., Bergstrom, S. 1984. *Characteristics of pregnant women in Mozambique - parity, child survival and socio economic status.* Upsala Journal of Medical Sciences, 89(2), 117-128 (tables, figs., map, 13 refs.) ISSN 0300-9734

§ As a basis for improvement of maternal health care programs in Mozambique, 1051 pregnant women were interviewed at 10 sites in 8 of the country's 10 provinces. Two-thirds of the women lived in rural areas. The average number of previous births ranged from 2.4 to 4.7 and was significantly higher when the woman had received some education, possessed a radio, or the woman or her husband had paid employment. In the most underprivileged rural area, 56% of the children had died before the age of 5 and 35% of the pregnant women had undergone six childbirths or more. It is concluded that to improve maternal and child health, it is necessary to increase socioeconomic development as well as improve maternal and child health care. (AU)

445 Lindtjorn, B. 1983. *Xerophthalmia in the Gardula area of South-West Ethiopia.* Ethiopian Medical Journal, 21, 169-174 (tables, 18 refs.) ISSN 0014-1755

§ In a prospective study of hospital-diagnosed cases as well as in a prevalence study among children, vitamin A deficiency, including blinding xerophthalmia, was demonstrated to be prevalent in the Gardula area of southwest Ethiopia, an area where the magnitude of the disease remains undefined. On the basis of the indication that measles is a catalyst in the development of severe xerophthalmia, the author suggests preventive health measures, including vaccination and nutrition programs to reduce xerophthalmia. (AU modified)

446 **Livenais, P.** 1984. *Déclin de la mortalité dans l'enfance et stabilité de la fécondité dans une zone rurale Mossi (Haute-Volta) : essai d'interprétation d'un régime démographique.* Cahiers de l'ORSTOM, Série Sciences Humaines, 20(2), (tables, cartes, 9 réf.) En, Es ISSN 0008-0403

§ L'article a pour objet de resituer en cas de très forte baisse de la mortalité infantile et juvénile dans le cadre de la discussion qui a trait à la transition démographique. Le cas évoqué est celui de la société Mossi de la région de Kongoussi (Burkina Faso). Un essai d'interprétation du régime démographique (dont les deux autres facettes sont l'ampleur des courants migratoires et la stabilité de la fécondité) est présenté, faisant intervenir des informations sur la structure sociale et l'organisation de la production. (AU)

447 **Loening, W.E.K., Coovadia, H.M.** 1983. *Age-specific occurrence rates of measles in urban, peri-urban, and rural environments: implications for time of vaccination.* Lancet, 2(8345), 324-326 (tables, 15 refs.)

§ Measles vaccination is unsatisfactory in infants less than 8 months old. To find out what proportion of children with measles in the developing world fall within this age range, a survey was conducted in Natal/Kwa Zulu. Data were collected from urban (community-based survey, hospital data on infectious diseases, referral centre data), periurban (regional hospital and clinics), and rural (three local hospitals and their peripheral clinics) populations. There was a positive association between population density and the percentage of measles cases aged 8 months or less: 20-45% in urban areas, 15% in the periurban zone, and 6-12% in rural Kwa Zulu. The mortality rate for measles in this age group at the referral centre was 26%. There is an urgent need for effective methods of immunizing the very young against measles in high-density regions of developing countries. (AU)

448 **Loewenson, R., Paxton, D., Zanza, J., Laing, R.** 1983. *Community health status in a small urban area of Zimbabwe.* Central African Journal of Medicine, 29(7), 135-138 (tables, fig., 11 refs.) ISSN 0008-9176

§ In this December 1981 study of an urban area of Mashonaland, Zimbabwe, the nutritional status of 744 children aged less than 8 years was assessed by measuring weight, height, and arm circumference. The results are discussed and presented as statistical data. Additional interviews were conducted to collect demographic and socioeconomic information about the children's families. About 14% of the children were judged to be undernourished and in need of some sort of nutrition intervention. (SALUS)

449 **Longhurst, R., Payne, P.** 1979. *Seasonal aspects of nutrition: review of evidence and policy implications.* Discussion papers no. 145, Institute of Development Studies, University of Sussex, Brighton, GB. 35 p. (tables, figs., 47 refs.)

§ This paper examines evidence from developing countries that suggests a seasonal pattern in the balance between nutrient intake (the authors concentrate particularly on energy) and requirements. The authors review the mechanisms through which a deficit in intake leads to change in body weight in adults and reduced growth in children, which may in turn be followed by significant loss of work capacity and disease resistance, and, in the extreme, by death. The technical problems involved in the measurement of food consumption are considerable. Those in measuring requirements (expenditure of energy) are greater still, and direct measurement of seasonal change in individual needs is rare. However, there is evidence from a number of countries of weight loss during the wet season, and strongly suggestive evidence that this is a result of adverse changes in either intake or expenditure, or both. The incidence of protein-energy malnutrition in children in many communities is also higher in the wet season, and this may be due partly to the enhanced risk of infectious disease. The paper ends with a discussion of the ways in which seasonal effects should be taken into account in programs and policies relating to rural development. (AU)

450 **Longhurst, R.** 1980. *An investigation of the relationships between farm size, cropping patterns, women's work, nutrition and child care.* Institute of Development Studies, University of Sussex, Brighton, GB. 85 p. (tables, 90 refs.)

§ This report examines the relationship of cropping patterns to family nutrition and child malnutrition in a village in Moslem Hausaland, northern Nigeria, based on material collected in 1975-77. The study is introduced and its objectives described within a policy context. A brief literature review on policy-related nutrition research is included, together with the themes and hypotheses to be examined. The second section provides information on Hausaland in general and the study location in particular - its geography, agriculture, and state of health. Methodology is also described. Main study themes are: the nutrient content of what is grown will determine types of nutrients consumed; different cropping patterns will have different labour needs (caloric expenditure) that will influence time allocation within the household and provide employment, hence income, for landless labourers and their families; the seasonal characteristics of the cropping pattern will have particular implications for nutrition at certain times of the year, as caloric availability, work needs, and infection loads interact; access to land, labour, and improved technology will influence the extent and nature of the marketable surplus in the community and the nutritional status of the richer farming families. The main recommendation with policy implications is that no agricultural project or innovation should be introduced without complementary resources, whose supply and quality may vary seasonally. Similarly, dietary recommendations have implications for agriculture; optimum allocation of staple foods among age groups and in seasons is considered crucial. (CAB Abstracts) *

451 **Longhurst, R.** 1984. *The energy trap: work, nutrition and child malnutrition in northern Nigeria.* Cornell international nutrition monograph series no. 13, Cornell University, Ithaca, US. 101 p. (tables, 71 refs.)

§ The research described in this monograph examines the distribution and determinants of worker energy expenditure, household energy availability from farm products, household and individual energy intake, and protein-energy malnutrition in children. It is based on data collected in the village of Dayi in northern Nigeria. These various aspects of energy production and allocation are integrated into the concept of an "energy trap" using the determinants of family structure and asset holdings as suggested by various models of peasant and household economics. A sample of households is classified ex post using the position of the household head in the farm labour market, asset ownership, and occupational class. It was found that poor workers, compared to the rich, had a higher seasonal energy expenditure and produced a smaller quantity of available energy from farm produce per unit of their energy input. It is also shown that energy intake of poor male household heads when related to seasonal energy expenditure was less than that of the rich heads; analysis of secondary information shows that richer families had higher energy intake year round on a per family member basis. Energy intake within the family was found to be unequal with male adults receiving higher intakes than female adults, and adolescents receiving more than infants and children. The nutritional status of rich and poor children was similar; economic advantages for the rich children may have been mitigated by the fact that they were on average later birth order children and, in polygamous households, were exposed to more infection. Finally, the extent and existence of an "energy trap" whereby workers and families might be denied the possibility of accumulating surplus so keeping them poor, is discussed with implications for rural development policy. (AU)

452 **Lucas, S.B., Mati, J.K.G., Aggarwal, V.P., Sanghvi, H.C.** 1983. *The pathology in perinatal mortality in Nairobi, Kenya.* Bulletin de la Societe de Pathologie Exotique, 76(5), 579-583 (table, 10 refs.) Fr

§ With the objective of planning more appropriate obstetric health care, this study was designed to determine the clinico-pathological causes of death in 497 stillbirths and neonatal deaths (first 24 hours) in a hospital in Nairobi. Findings indicated a high percentage of avoidable obstetric causes of death such as cord prolapse, birth trauma, and prolonged labour. Of the neonatal deaths, 52% resulted from complications associated with low birth weight. (F.M.)

453 **Lunn, P.G., Whitehead, R.G., Coward, W.A.** 1979. *Two pathways to kwashiorkor?* Transactions of the Royal Society of Tropical Medicine and Hygiene, 83(4), 439-444 (tables, figs., 27 refs.)

§ Comparisons, based on anthropometric and biochemical measurements, have been made between Gambian and Ugandan children with kwashiorkor, and Gambian children with marasmus. Cases of kwashiorkor and marasmus in Gambia were very similar both anthropometrically and in their plasma hormone and amino acid patterns, but quite different in these respects from kwashiorkor in Uganda. Additional data from a prospective longitudinal study recently completed in Gambia indicated that, when it occurred, hypoalbuminemia appeared acutely, in contrast to the gradual development observed in Uganda. These findings suggest that cases of kwashiorkor in Gambia and in Uganda have distinct etiologies and possible reasons for the difference in pathophysiologies are discussed. In particular, the association of hypoalbuminemia with diarrheal disease in Gambia indicates that plasma protein loss from the gastro-intestinal tract could be a factor precipitating kwashiorkor in children who would otherwise be regarded as cases of marasmus. (AU)

454 **MacCormack, C.P.** 1982. *Ethnography of fertility and birth.* Academic Press, London, GB. 293 p. (tables, photos, refs.) 0-12-463550-4

§ This collection of 10 papers by health and social scientists provides anthropological, medical, and demographic insights into the process of human birth and is based on the authors' fieldwork in various parts of the world. A number of variables influencing fertility and birth are described. These include patterns of sexuality, marriage, residence, diet, lactation, and medical practices. Beliefs and rituals surrounding diviners, spirit mediums, witchcraft, women's initiation rites, herbalists, and traditional midwives are also considered; the societies in question range from rural agricultural environments to urban industrial settings. The book contains some useful photographs, a comprehensive index, and extensive bibliographies. (SALUS)

455 **Mahieu, J.M., Muller, A.S., Voorhoeve, A.M., Dikken, H.** 1978. *Pertussis in a rural area of Kenya: epidemiology and a preliminary report on a vaccine trial.* Bulletin of the World Health Organization, 56(5), 773-780 (tables, figs., 12 refs.) Fr

§ In the course of 2 years' surveillance of whooping cough by fortnightly home visits in Machakos District, Kenya, 918 cases were observed with a peak of 218 from December 1974 to January 1975. The attack rate was highest (15.8%) during the first year of life; for the age group 0-6 years it was 12.8%. Ninety percent of cases occurred in children 6 years of age and younger. Girls were significantly more affected than boys. The overall case fatality rate was 1.3% but among infants it was 2.5 times higher. To contribute to the improvement of immunization coverage in countries where health resources are limited, a schedule of child immunization was introduced in the study area with the aim of evaluating its effectiveness in protecting children from clinical pertussis. In this trial, the effect of two and three diphtheria-pertussis-tetanus (DPT) vaccine doses was compared. Pertussis agglutinating antibody determinations showed an equally satisfactory response after two and three DPT vaccine doses. (AU modified)

456 **Makhoul, N.** 1984. *Assessment and implementation of health care priorities in developing countries: incompatible paradigms and competing social systems.* Social Science and Medicine, 19(4), 373-384 (101 refs.) ISSN 0277-9536

§ On the premise that health care systems result from the interrelationship between social demand, the state, and international aid policy, this paper focuses on: the link between disease and the health care system on the one hand and capitalist relations of production on the other; and the role played by foreign development agencies in shaping health care priorities. The author argues that these priorities are determined primarily by "the imperatives of restoring capitalism's legitimization which is constantly challenged by the social consequences of its development." (F.M.)

457 **Mandara, M.P., Remme, J.** 1983. *Current measles control in Tanzania.* Reviews of Infectious Diseases, 5(3), 554-557 (figs., table, 6 refs.) ISSN 0162-0886

§ Measles is one of the major public health problems in Tanzania and is recognized as such by the population. Since 1975, measles vaccination has been given as part of the national expanded immunization program. On the basis of the findings of measles surveys and a vaccination trial, the policy of vaccination at 6 months of age has been changed to that of vaccination at 9 months of age, and malnourished children are now vaccinated. Vaccination coverage is unsatisfactory because many villages are too far from health units and because measles vaccination has low credibility. The epidemiology of measles appears to be changing as a result of vaccination, and the age of vaccination may have to be modified in the future. A policy of vaccinating each child twice is being considered as well as one of vaccinating sick children who are attending maternal and child health clinics. (AU)

458 **Martorell, R.** 1982. *Nutrition and health status indicators: suggestions for surveys of the standard of living in developing countries.* Living standards measurement study, working paper no. 13, World Bank, Washington DC, US. 97 p. (tables, figs., 84 refs.)

§ In the context of the requirements of household surveys of the standard of living in developing countries, the author reviews indicators of nutritional status and health. After a brief consideration of the rationale behind the use of health and nutrition as measures of living standards, the interrelationships among diet, infection, and nutritional status are discussed. The main body of the paper then analyzes the advantages and disadvantages of anthropometry, birthweight, clinical examinations, measures of food and nutrient intake, breastfeeding, biochemistry, and illness as measures of nutritional status and health. In the conclusion, attention is drawn to gaps in research and methodology and recommendations are made concerning the appropriateness of the various indicators for household surveys. (F.M.)

459 **Martorell, R., Ho, T.J.** 1984. *Malnutrition, morbidity and mortality.* In Mosley, W.H., Chen, L.C., Child Survival: strategies for research. Population and Development Review, 10 (supplement), 49-68 (tables, 53 refs.)

§ This paper reviews the literature on the subject of mild and moderate malnutrition and survival. Clinical, epidemiological, and experimental studies are reviewed, and attention is paid to the basic mechanisms underlying key interrelationships. As preface to this discussion, two general issues are discussed. First, how are mild and moderate malnutrition measured and, second, what factors are responsible for their existence. (AU)

460 **Masanganise, R., Waterston, A.J.R.** 1983. *Urban under-nutrition - a study in Harara and Chitungwiza.* Central African Journal of Medicine, 29(7), 138-141 (tables, 9 refs.) ISSN 0008 9176

§ A community survey of nutritional status of children under 5 years old in four areas in Harare and Chitungwiza showed a prevalence of total undernutrition (weight-for-age) varying between 29 and 51%. Stunting (low height-for-age) ranged from 44 to 62% and wasting (low weight-for-height) from 7 to 18%. Children, 1-2 years old, were most affected in all areas. Major etiological factors were rural domicile, late introduction of solids, and low family income. (AU)

461 **Masembe, R.N.** 1977. *Pattern of bacterial diarrhoea of the newborn in Mulago Hospital (Kampala).* Journal of Tropical Pediatrics and Environmental Child Health, 23(4), 61-65 (tables, figs., 9 refs.)

§ A 3-year retrospective study of 4638 babies admitted to the Mulago Hospital Special Care Unit in Kampala, Uganda, was carried out to determine the frequency and causes of diarrhea in newborns. Data were collected on birth weights, bacterial gastroenteritis, microbiology records, positive cultures of rectal swabs, and the organisms involved. A 6-month study of clinical features and mortality in infected babies was also done. The findings indicate a high rate of morbidity resulting from infantile diarrhea. Statistical data are included. (SALUS)

462 **Masuy-Stroobant, G., Tabutin, D.** 1982. *L'approche explicative en matière de mortalité des enfants. Reflexions et perspectives.* Genus, 38(3-4), 19-37 (21 réf.) It, Fr ISSN 0016-6987

§ Après avoir présenté la complexité du problème de l'explication de la mortalité des enfants, nous avons, en un premier temps, fait un bref bilan des démarches adoptées et des recherches réalisées actuellement par les diverses disciplines concernées de façon directe ou indirecte par ce phénomène, essentiellement l'épidémiologie et la démographie, mais aussi, la médicine, la sociologie et l'anthropologie médicales. Ce bilan s'est surtout attaché à relever les incohérences, les lacunes et les limites de démarches explicatives menées dans ce domaine : sont-elles réellement explicatives ou simplement descriptives? Utilisent-elles, en fonction des objectifs fixés, les techniques d'observation et d'analyse statistique adéquates? Se sont-elles situées sans ambiguïté dans le cadre d'une reflexion méthodologique cohérente? Autant de questions auxquelles il a fallu le plus souvent répondre par la négative. Au cloisonnement des disciplines, nous avons opposé la nécessité absolue d'une approche multidisciplinaire et concertée, s'attachant tant à une réflexion "théorique" sur la causalité du phénomène dans toute sa complexité, qu'à l'élaboration de tout programme de recherche en la matière. (AU)

463 **Mati, J.K.G., Aggarwal, V.P., Lucas, S.B., Sanghvi, H.C., Corkhill, R.** 1983. *The Nairobi Birth Survey IV - Early perinatal mortality rate.* Journal of Obstetrics and Gynaecology of Eastern and Central Africa, 2(4), 129-133 (tables, 5 refs.)

§ This paper examines early perinatal mortality rates (EPMR) determined from data collected during the 7-week Nairobi Birth Survey carried out in 1981. Findings indicate an EPMR of 35.3 per 1000 total births. The authors conclude that the provision of safe delivery facilities must be provided in conjunction with the provision of antenatal care to reduce the high mortality rates. (F.M.)

464 **Mbacké, C.** 1986. *Réflexions sur l'utilisation possible des données rétrospectives des EMIS dans l'étude de la mortalité infantile et juvénile.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 126-149 (tables, fig.) IDRC-MR125f, INSAH no. 5

§ L'objectif des enquêtes de type EMIS est de permettre une analyse approfondie de la mortalité infantile et juvénile. L'objectif de ce document est de présenter quelques réflexions sur les possibilités d'analyse, qu'offrent les données rétrospectives, rassemblées lors de la phase I de constitution d'une enquête à passages répétés. (AU abrégé)

465 **Mburu, F.M., Smith, M.C., Sharpe, T.R.** 1978. *Determinants of health services utilization in a rural community in Kenya.* Social Science and Medicine, 12(4A), 211-217 (tables, 37 refs.)

§ The social, structural, and health policy aspects related to the use of childhood vaccination in Machakos, Kenya, are outlined. Children who have had BCG and smallpox vaccinations are likely to have received all other immunizations, so the incidence of these two scars was used to determine which children aged 1-4 years had received preventive care. A multivariate analysis revealed six health behaviour related components: demographic structure, cosmopolitan, health consciousness, attitudes toward health care, awareness of modern health services, and the presence of significant references. It is concluded that social structure and health policy are the most important determinants of community health care. (SALUS) *

466 **Mburu, F.M.** 1984. *Issues in health and nutrition development in Kenya.* Joint Ministry of Health/UNICEF Workshop, Kisumu, KE, 23-26 July 1984. 60 p. (maps, figs., 21 refs.)

§ Researchers drawn from a variety of disciplines, government, and UNICEF personnel participated in this workshop whose objective was to explore how a joint program between the Kenya government, and UNICEF (1985-89) could be made more effective. The aim of the program is to design and implement cost-effective and appropriate measures to combat infant mortality in Kenya, emphasizing improvements in nutritional status. Among the topics discussed were: the definition of leading health and nutrition problems in Kenya; identifying the interrelationships between problems and causes, especially between economic status and health and nutrition; the establishment of health and nutrition priorities; alternative strategies for change; problems in health measurement and data collection; community participation in health programs; primary health care in the context of rural development and the present district focus strategy; and the development of a diarrheal disease program. (F.M.)

467 **McBean, A.M., Foster, S.O., Herrmann, K.L., Gateff, C.** 1976. *Evaluation of a mass measles immunization campaign in Yaoundé, Cameroun.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 70(3), 206-212 (tables, figs., 16 refs.) ISSN 0035-9203

§ A mass measles immunization campaign carried out in Yaoundé, Cameroun, has been evaluated. Of the children, 60% were immune to measles at the time of the campaign. Only 51% of the susceptible children received vaccine. This was due to lack of attendance at the vaccination centres and errors in the selection of children given vaccine. The vaccine administered was relatively ineffective: 40% seroconversion. Difficulties which probably contributed to the low seroconversion rate included suboptimal vaccine titre, inadequate doses of vaccine, and the relatively long time of vaccine utilization under tropical temperatures. Overall, 83% of the vaccine given to the vaccinating team was wasted. Future immunization campaigns can be improved through better screening of the children, improved handling of the vaccine, the use of marker vaccine, and improved health education. (AU)

468 **McDowell, I., Hoorweg, J.** 1975. *Social environment and outpatient recovery from malnutrition.* Ecology of Food and Nutrition, 4, 91-101 (tables, figs., 29 refs.) ISSN 0367-0244

§ It is generally recommended that the evaluation of child nutrition programs in tropical countries should be carried out routinely by the staff. Data collected in this way at a Nutrition Rehabilitation Unit in Uganda relate the recovery of outpatients to social factors in their home environment. Because of the complexity of these influences and the limitations of the data, this attempt is only partially successful. The future collection of such data should be more specific and planned more carefully. To this end, a hypothetical model is presented outlining the complex interrelations between social variables and their influence on recovery. (AU)

469 **McDowell, I., Hoorweg, J.** 1977. *Environmental risk factors in outpatient recovery from malnutrition.* Ecology of Food and Nutrition, 6(1), 23-30 (tables, 24 refs.)

§ Early in 1972, interviews were conducted with 64 mothers of malnourished children attending the outpatient section of the Nutrition Rehabilitation Unit in Kampala, Uganda, to examine the home environment of malnourished children to determine those factors most affecting their rate of recovery. The questionnaire used is included and the results are grouped into rural and urban categories. The study has broad implications for nutrition education, which should take into account different factors affecting the ability of rural and urban families to provide their children with proper food. Mothers and children who are considered likely to fail can then be given further assistance, such as food supplements or inpatient admission. (SALUS)

470 **McDowell, I., King, F.S.** 1982. *Interpretation of arm circumference as an indicator of nutritional status.* Archives of Disease in Childhood, 57(4), 292-296 (tables, figs., 19 refs.)

§ Data from a longitudinal study of 1342 Zambian children aged 0-60 months are used to derive reference standards for mid-upper-arm circumference. To determine the sensitivity, specificity, and predictive value of the arm circumference measurement as an indicator of nutritional status, associations between arm circumference and other anthropometric and clinical indicators of nutritional status are presented. Although none of the anthropometric indices accurately reflects the clinical judgement of nutritional status, arm circumference is shown to be similar in accuracy to weight-for-age and weight-for-length as an indicator of clinical malnutrition; it provides a viable alternative to these more cumbersome measurements for use in field surveys. (AU)

471 **McDowell, J.** 1977. *Kayunga nutrition scouts project: an outline of a successful nutritional surveillance/prevention project in Uganda.* Working conference of the International Union of Nutritional Sciences, Hyderabad, IN, 17-21 Oct. 1977. United Nations Children's Fund, Nairobi , KE. 6 p.

§ Whereas systems of nutritional surveillance that rely on mothers bringing children to clinics for routine checks have failed to reach the majority of children in rural Africa, a community-based project in southeast Uganda has shown that mass preventive surveillance can be effectively accomplished locally at very low cost. This surveillance and prevention project, initiated in late 1975 in Kayunga, used 12 teenagers, selected by the community and trained for 6 weeks in the recognition and treatment of malnutrition, as scouts to patrol about 400 households. Making visits by bicycle, they assessed the nutritional state of young children by measuring mid-upper-arm circumference and gave advice to mothers on nutrition, general child care, and domestic sanitation. A meeting of the area's elders chose a management committee for selecting and recruiting scouts and appointed a respected elder as project manager. The scouts' work resulted in a drop in the percentage of malnourished children in the area from 7.4% in May 1976 to 5.0% in June 1977, with no cases of clinical kwashiorkor or marasmus seen from April to September 1977. The project also aroused community interest in the need for better water supplies and sanitation and increased people's willingness to contribute their labour for improvement schemes. The community now bears the total cost of the project, which is about USD 5000 annually. For this amount, 5000 children are covered by a complete surveillance and prevention system at minimum cost to the central government. (SALUS)

472 **McGregor, I.A.** 1976. *Health and communicable disease in a rural African environment.* Oikos, 27, 180-192 (tables, figs., 40 refs.) Ru

§ In this paper an account is given of field studies undertaken in Gambia to determine patterns of health and disease in selected rural communities and to define some of the factors that influenced them. Studies began in 1949 in the west Kiang district. Findings indicated that mortality in the first 5 years of life accounts for more than two thirds of all deaths and is more frequent in the wet months of each year. About 50% of live births die before the fifth year and death rates are higher between 6 and 24 months. Over 5 years of age mortality is much less frequent and is little influenced by season. Health indices in childhood change with season and with age. Growth rate is uneven in early life, being poor in the rains and good in the dry months. As age advances, wet season growth rates improve and seasonal differences lessen. The impact of communicable disease at ages before efficient immune defences have been acquired, and the added effects of dietary limitations and poor standards of child care imposed by a subsistence agricultural economy are important factors which shape patterns of illness, death, and malnutrition at young ages. (AU modified)

473 **McGregor, I.A., Williams, K., Billewicz, W.Z., Holliday, R.** 1979. *Mortality in a rural West African village (Keneba) with special reference to deaths occurring in the first five years of life.* Paper presented at the Conference on the medical aspects of African demography, Cambridge, GB, 17-18 Sept. 1979. 24 p. (tables, 17 refs.)

§ The findings of research into infant and child mortality, carried out between 1951 and 1975 in the village of Gambia, are discussed. Data indicated a mortality rate of 49.2 per 1000 live births in the first month of life, a rate which varied according to season. The role of birth weight and malaria in influencing mortality is discussed in this context. The relationship between mortality and seasonality is marked, peaking between August and January. In these months malaria and diarrhea are most widespread and the nutritional status of children the poorest. Mortality rates change with age, being highest between 6 and 21 months. The decline in death rate after the latter age, the authors suggest, is related to the active immunity acquired by children. (F.M.)

474 **Meakins, R.H., Harland, P.S., Carswell, F.** 1981. *Preliminary survey of malnutrition and helminthiasis among schoolchildren in one mountain and one lowland ujamaa village in northern Tanzania.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 75(5), 732-735 (tables, 11 refs.)

§ In this April 1976 study, the nutritional status, parasite prevalence, and immediate skin hypersensitivity to ascaris and schistosoma antigens were determined for 185 schoolchildren living in two villages in northern Tanzania. The results are discussed and presented as statistical data. In the lowland village, prevalence rates were as follows: *Schistosoma haematobium*, 53.8%; *Ascaris*, 26.0%; and hookworm, 24.7%; 57.5% of the children examined were malnourished. In the mountain village, the parasite prevalence rates were: *S. haematobium*, 15.2%; *S. mansoni*, 1.6%; *Ascaris*, 65.2%; and hookworm, 24.1%; malnutrition was found in 81.9% of the boys and in 41.2% of the girls. Immediate skin hypersensitivity tests proved unreliable. (SALUS)

475 **Meheus, A., Reniers, J., Niyibizi, S., de Clereg, A., Kamanzi, G.** 1984. *Etude de la mortalité infantile et de la mortalité de 1 a 2 ans dans une génération d'enfants au Rwanda.* Courrier - Centre international de l'enfance, 34(5-6), 538-545 (tables, carte, fig, 24 réf.) En ISSN 0538-5482

§ Maraba est une grande commune rurale du Rwanda; les taux de mortalité y ont été étudiés dans une génération de nouveau-nés (1209 naissances). La mortalité était de 33,1 p. 1000, la mortalité infantile de 105 p. 1000 et la mortalité entre 1 et 2 ans de 39,3 p. 1000. Ces taux de mortalité sont analysés selon le mois de naissance, le lieu et l'accouchement, l'âge et la parité de la mère et le sexe de l'enfant. La mortalité infantile était divisée en sa partie néonatale et post-néonatale. Cette dernière, remonte vers l'âge d'un an, indiquant l'importance des causes exogènes. Sur 1196 accouchements, il y avait 13 jumeaux (proportion de 1,1 %). Le taux de mortinatalité était de 346 p. 1000 et la mortalité infantile de 667 p. 1000, dont 600 p. 1000 était néonatale. Les auteurs discutent les différents aspects du cercle vicieux: niveau socio-économique faible; mortalité élevée du jeune enfant; fécondité élevée; mortalité élevée. Des activités de planning familial, conçu comme espacement des naissances, devraient pouvoir diminuer ces taux de mortalité. (AU)

476 **Meldrum, B., Di Domenico, C.M.** 1982. *Production and reproduction. Women and breastfeeding: some Nigerian examples.* Social Science and Medicine, 16(13), 1247-1251 (18 refs.) ISSN 0277-9536

§ Breastfeeding is of crucial importance in the developing world, not only to the health of the mother and her infant, but to the community in general. The importance of breastfeeding of infants lies not only in its nutritional and hygienic properties, but also in its immunological effects and its influence in the control of fertility. The literature review is combined with a discussion of aspects of research in Nigeria undertaken by the authors on duration of breastfeeding, bottlefeeding, and breastfeeding and fertility. Under a discussion of social and policy implications, the need for governments in developing countries to adopt the recent World Health Organization's code of practice to curtail the sale of artificial infant milks, is stressed. (AU abbrev.)

477 **Meme, J.S.** 1978. *A prospective study of neonatal deaths in Nairobi, Kenya.* East African Medical Journal, 55(6), 262-267 (tables, 10 refs.) ISSN 0012-835x

§ A prospective study of livebirths was carried out at a Nairobi hospital for 6 months. Of the 1595 live births recorded, there was a neonatal mortality rate of 53.3 per 1000 live births. Low birth weight infants, weighing under 2500 g, had a mortality 30 times higher than higher weight infants. The main causes of death were associated with perinatal factors. Policy recommendations include the expansion of antenatal care services to protect maternal health. (F.M.)

478 **Mendonca, M.G.** 1982. *Demographic-sanitary indicators in Mozambique.* Genus, 38(1/2), 199-208 (tables, map, fig., 5 refs.) It, Fr

§ Using data from a 1979 pilot census in the district of Vilanculos and in some wards of the capital city, Maputo (carried out in preparation for the 1980 national population census), the author compares infant and child mortality rates and fertility for the two areas. Results are then compared with estimates from the 1970 census and the relative accuracy of the findings is discussed. (F.M.)

479 **Mensch, B., Lentzner, H., Denton, N., Taber, S., Strong, M.A.** 1983. *Comparative patterns of child mortality differentials in developing countries.* Paper presented at the Population Association of America meetings, Pittsburgh, US, 14-16 April 1983. 25 p. (tables, 16 ref.)

§ Using data on children ever born and children surviving, the authors analyze mortality differentials in 15 developing countries including Ghana, Kenya, Lesotho, Liberia, Nigeria, Sierra Leone, and Sudan. Univariate, bivariate, and multivariate (dummy variable regression) analyses are carried out. Variables include mother's childhood residence and lifetime migration; religion; urban or rural and regional residence; characteristics of housing and sanitation; mother's work status; marital status; father's occupation; maternal education, paternal education; ethnicity; income. The authors conclude that maternal education is a major variable in accounting for mortality differentials in the areas studied; and that paternal education is significant only in urban areas, probably due to its indication of economic status. (F.M.)

480 **Merlin, M., Rowre, C., Sentilhes, L., Keuzeta, J.J., Kouka-Bemba, D.** 1984. *Les maladies diarrhéiques infantiles: priorité en santé publique pour les populations d'Afrique Centrale.* Bulletin de liaison et de documentation, Hors série, XVe conférence technique de l'OCEAC, Yaoundé, CM, 19-23 nov. 1984 Organisation de coordination pour la lutte contre les endémies en Afrique centrale, Yaoundé, CM. pp. 37-52 (tables, carte)

§ L'étude décrit la méthode et les résultats de sept enquêtes menées en République centrafricaine, au Congo, au Gabon et au Tchad. L'objectif des enquêtes était de connaître les effets de la diarrhée sur la morbidité et la mortalité infantiles et juvéniles. Ces enquêtes, sous les auspices de l'OCEAC, ont été menées surtout en milieu urbain. Elles ont porté sur 28,697 ménages et 53,916 enfants de moins de 5 ans. Les auteurs analysent les implications politiques des résultats. (F.M. traduit)

481 **Metela, S.** 1981. *Les causes principales de la mortalité infantile à Kinshasa.* Zaïre-Afrique, 21(153), 149-159 (table, 8 réf.)

§ L'auteur utilise les données de 1975 portées sur les certificats de décès établis pour 555 enfants de moins d'un an décédés dans deux hôpitaux de Kinshasa afin de déterminer les principales causes des décès. Les résultats de l'étude montrent que 54 % des décès sont dus à des maladies infectieuses. L'auteur discute des résultats, compte tenu des facteurs sociaux, économiques et culturels. Des conclusions relatives aux priorités sont tirées : amélioration des conditions socio-économiques de la population, amélioration des conditions d'hygiène dans les zones urbaines et une meilleure éducation en matière de nutrition. (F.M. traduit)

482 **Mezoui, C.M., Martin, G.E., Noubi, L.** 1984. *Diarrhées infantiles : ampleur du problème dans une région du Cameroun.* Bulletin de liaison et de documentation, Hors série, XVe conférence technique de l'OCEAC, Yaoundé, CM, 19-23 nov. 1984. Organisation de coordination pour la lutte contre les endémies en Afrique centrale, Yaoundé, CM. pp. 71-82 (tables, 12 réf.)

§ Afin d'évaluer l'ampleur du problème des diarrhées infantiles dans une région du Cameroun, une étude sur la morbidité-mortalité a été entreprise dans l'ancienne province du Centre-Sud. Les travaux ont utilisé les données des formations sanitaires et celles d'enquêtes-sondages au cours d'une étude longitudinale ou 650 enfants avaient été suivis dès leur naissance jusqu'à l'age de 3 ans ou plus. Il était aussi question de voir si certains paramètres comme l'age, le sexe, le statut nutritionnel, statut socio-économique, le changement de saisons et l'environnement avaient un effet sur la morbidité et la mortalité infantiles des enfants diarrhéiques. (AU)

483 **Mgaza, O.** 1980. *Nutritional problems and policy in Tanzania.* Cornell international nutrition monograph, no. 7, Program in International Nutrition, Cornell University, Ithaca, US. 73 p. (tables, 83 refs.)

§ Available information on food supplies and nutritional problems in Tanzania have been studied and are presented. This clearly shows that the country faces nutritional problems of which protein-energy malnutrition is the most serious and requires priority action. Iron deficiency anemia, goitre, and vitamin A deficiency are also prevalent. Current data show that the food supply situation is improving after the low production levels of the early 1970s; however, there is maldistribution at all levels. The complex etiology of nutritional problems does not offer easy solutions. A review of various national policies shows that there is scope for nutritional improvement. Agriculture is geared toward food self-sufficiency, the health care system is rural based and emphasizes disease prevention, and income policies attempt to reduce large disparities in incomes while raising income levels. To achieve rapid improvements in nutrition, it is suggested that a more coordinated approach is required for which a national food and nutrition policy is necessary. This approach has already been adopted in Tanzania. Efforts should, however, continue to place emphasis on the role of nutrition in overall development such that all sectors recognize their potential contribution to nutritional improvement. (AU)

484 **Mhere, O.T., Mhlanga, G.E., Spencer, H.R.** 1984. *Optimal age for vaccinating Zimbabwean children against measles.* Central African Journal of Medicine, 30(11), 209-211 (tables, fig. 11 refs.) ISSN 0008-9176

§ The antibody response to attenuated live virus measles vaccine (Rimevax) was assessed in 280 children between the ages of 6 and 12 months. Children less than 11 months of age were found to have suboptimal seroconversion rates. The present routine in Zimbabwe, of vaccinating children against measles at 9 months, gives protection to no more than half of them. It is recommended that routine administration of measles vaccine in Zimbabwe should be restricted to children over the age of 11 months. Infants between 6 and 11 months should be vaccinated when there is a measles outbreak, when they are malnourished, or at risk of tuberculosis. (AU modified)

485 **Millman, S., Palloni, A.** 1984. *Breastfeeding and infant mortality: methodological issues and a research strategy.* Center for Demography and Ecology working paper no. 84-10, Centre for Demography and Ecology, Madison, WI, US. 45 p. (tables, 17 refs.)

§ A substantial amount of research has gone into understanding the links between breastfeeding and infant mortality. Yet many

of the results coming from it are partially or totally flawed due to improper study designs or procedures to estimate effects. In this paper, the authors review such flaws and suggest a methodological strategy to minimize their impact. They focus on data available from the World Fertility Survey (WFS) for two developing countries (Peru and Jamaica). The limitations and advantages of the information provided by WFS are highlighted and their use for hypothesis testing is illustrated. (AU)

486 **Millman, S.** 1985. *Breastfeeding and infant mortality: untangling the complex web of causality.* Sociological Quarterly, 26(1), 65-79 (60 refs.) ISSN 0038-0253

§ Much of the research which has been interpreted as showing the positive effect of breastfeeding on child survival is rendered inconclusive by errors in study design. Complexities of the breastfeeding-mortality relationship are discussed and a research strategy is outlined which would give more reliable estimates of the benefits of breastfeeding. It is argued that multivariate analysis of survival must control for background variables which are likely to affect both feeding method and health outcome. They must take account of the temporal ordering of feeding and health events and statuses. In particular, analytic methods which deal appropriately with truncation must be utilized. Interactions of feeding method and background factors such as family income, maternal education, or quality of water supply must be explored. (AU modified)

487 **Molineaux, L.** 1983. *The impact of parasitic diseases and their control on mortality, with emphasis on malaria and Africa.* Seminar in social policy, health policy and mortality prospects, Paris, FR, 28 Feb. - 4 March 1983. International Union for the Scientific Study of Population, Liège, BE. (tables, figs., 55 refs.)

§ The author reviews literature on the expected impact on mortality of the control of parasitic diseases through health programs. The following questions are addressed: What is the current contribution of parasitic diseases to mortality? What methods are available to reduce this effect? What is the expected use of the methods and their impact on mortality? What other variables are involved in this issue? The emphasis of the paper is on malaria. After reviewing three research projects concerned with malaria eradication (the Parc-Taveta scheme, Tanzania; the Kisumu project, Kenya; the Garki project, Nigeria), the author discusses the general relationship between malaria and mortality. Age specificity and seasonality are considered in this context. (F.M.)

488 **Mollard, E.** 1980. *Le niveau de la mortalité aux jeunes âges et présentation des causes de décès : le cas du Ghana.* In La mortalité des enfants dans le tiers-monde : orientations et méthodes de recherche. Ordina Editions, Liège, BE. pp. 93-106 (tables, 7 réf.) ISBN 2-87040-017-9

§ Basé sur les données de l'enquête post-censitaire de 1971 au Ghana, l'auteur présente le niveau de la mortalité aux jeunes âges. La population concernée par cette enquête appartenait à un échantillon stratifié de 5 % obtenu par tirage systématique parmi les 9274 aires de dénombrement du recensement. Les trois méthodes classiques d'estimation de la mortalité aux jeunes âges (Brass, Sullivan, Trussell) donnent des résultats fort semblables. Comparés aux résultats obtenus pour les données de 1968 et 1971, ils sont cohérents. Les tables de mortalité dérivées du modèle Nord de Coale et Demeny sont comparables à celle obtenue par la méthode d'Arriaga. L'introduction des variables "instructions de la mère" et "secteur d'habitat" n'apporte aucun élément neuf puisque, en milieu urbain, quelle que soit l'éducation de la mère, la mortalité infantile est inférieure à celles des régions rurales. (AU)

489 **Mondot-Bernard, J.** 1977. *Les relations entre la fécondité, la mortalité aux jeunes âges et la nutrition en Afrique.* Centre de développement, Organisation de coopération et de développement économique, Paris, FR. 112 p. (tables, fig. 145 réf.)

§ L'auteur analyse les relations possibles qui peuvent exister entre la fécondité, la mortalité aux jeunes âges et la nutrition. L'incidence de la famine sur la fécondité et l'allaitement ainsi que les problèmes de l'allaitement maternel et les causes nutritionnelles de la mortalité infantile sont aussi étudiés. L'étude nous donne des renseignements utiles sur les populations africaines et leur caractéristiques. Le fait que plusieurs enfants africains sont atteints de kwashiorkor entre l'âge de 18 mois et 3 ans, signifie entre autres que le taux de mortalité, de natalité et de mortalité infantile et aux jeunes âges est plus élevé en Afrique que partout dans le monde. L'étude est faite dans le dessein d'inciter les responsables africains et autres organisations à se concerner d'avantage du sort nutritionnel de leur population et à entreprendre des politiques de développement qui prendraient comme priorités l'alimentation et la nutrition.

490 **Mondot-Bernard, J., Monjour, L., Karam, M.** 1980. *Results of medical and nutritional surveys.* In Satisfaction of food requirements and agricultural development in Mali, Vol. II. Development Centre, Organisation for Economic Cooperation and Development, Paris, FR. 90 p. (tables, figs., refs.)

§ This volume on the results of surveys carried out in Mali is divided into three sections: the analysis of biochemical parameters and parasitic diseases; discussion of the results of anthropometric measurements; and an examination of fertility indicators. Analysis of the anthropometric data indicates that severe malnutrition affects children between the ages of 12 and 23 months, the weaning period. Malnutrition was also widespread for children aged 6 to 9 years. (F.M.)

491 **Mondot-Bernard, J.** 1980. *Results of food consumption surveys.* In Satisfaction of food requirements and agricultural development in Mali, Vol. I. Development Centre, Organisation for Economic Cooperation and Development, Paris, FR. 194 p. (tables, figs., map, refs.)

§ This study contributes to the definition of an agricultural policy, taking account of the need to satisfy the nutritional requirements of the population. After an analysis of the food and nutritional status of Mali, a series of food production objectives likely to provide a balanced diet is proposed. Similarly, after an analysis of the agricultural situation, coherent proposals for the development of this sector are made. A zonal model of the agricultural sector helps to quantify possible alternatives and to identify the order of magnitude and location of the main production inputs to be employed to satisfy the food and nonfood agricultural demand. The most important result of this work is the development of a methodology and data base that would enable the formulation of an agricultural policy intended to satisfy the food requirements of the population while taking account of the other demands on agriculture. Both the methodology developed for the determination of food requirements and the model can be adapted to the situation of other countries. Volume I of this work describes the general methodology of the study and presents the analysis of food consumption surveys. These comprise surveys conducted by the Development Centre and the food sectors of surveys undertaken by the Rural Economics Institute in Mali in 1977 and 1978. (AU modified)

492 **Mondot-Bernard, J., Monjour, L., Karam, M.** 1980. *Results of medical and nutritional surveys.* In Satisfaction of food requirements and agricultural development in Mali, Vol. II. Development Centre, Organisation for Economic Cooperation and Development, Paris, FR. 90 p. (tables, figs., ill., maps, refs.)

§ This report presents the results of medical and nutritional surveys conducted during 1977-78 in four Mali villages by the OECD Development Centre. Findings and data are presented on biochemical parameters, parasitic diseases, anthropometric measurements of children, fertility, and child mortality. In general, the overall prevalence of anemia was about 25% and that of malaria, 90%. The overall level of parasitic infections generally was low, but there were wide variations among villages (7.1-82.9%). The three most common parasitic diseases were amoebiasis, trichomoniasis, and bilharziasis. Chronic malnutrition affected more than 50% of children aged 24-35 months and 34% of all children examined. Higher fertility and child mortality were observed in the four villages than for Mali as a whole. (SALUS)

493 **Mondot-Bernard, J.** 1981. *Fécondité et allaitement en Afrique.* Environnement Africain, 14/16, 131-150 (tables, cartes, 13 réf.)

§ L'auteur analyse les relations qui existent entre la durée de l'allaitement au sein et la fécondité, ainsi que l'effet de l'allaitement sur la santé des enfants africains, tout particulièrement en Algérie, au Nigéria, au Sénégal et au Zaire. Bien que les données sur le sujet soient incomplètes, on peut tirer certaines conclusions, dont celles-ci : la durée de l'allaitement s'étend en moyenne de 18 à 24 mois, les femmes rurales allaitant plus longtemps que celles des villes; la mortalité infantile est plus élevée parmi les enfants qui ne sont pas nourris au sein; la relation entre mortalité et fécondité est du même ordre que celle entre sevrage et fécondité; les jeunes enfants sont souvent incapables de digérer les aliments qu'on leur fait prendre; il faut poursuivre la recherche sur les relations entre l'allaitement, la santé infantile et la fécondité, de même que sur les méthodes de sevrage. (F.M. traduit)

494 Monjour, L., Bourdillon, F., Froment, A., Druilhe, P., Fribourg-Blanc, A., Palmiateri, R., Gouba, E., Gentilini, M. 1983. *Protein patterns of Upper Volta children as a function of age and nutritional status.* Annales de la Société belge de médecine tropicale, 63(3), 227-232 (tables, 18 refs.) Fr, Ni

§ The relationship between plasma protein patterns and the nutritional status of young children in rural Burkina Faso was evaluated with a view to assessing whether it was possible to screen for malnutrition by using a biochemical test. A sample of 680 children between the ages of 4 and 36 months was examined. Findings indicated that 52.2% of the sample were moderately to severely malnourished. The authors concluded that none of the biochemical indices tested represented a valid means of assessing nutritional status and therefore that anthropometric measurements remain the most effective and cheapest means of evaluating nutritional status. (F.M.)

495 Monjour, L., Bourdillon, F., Froment, A., Claudio-Ribeiro, D., Fabre, M., Chastang, C., Gentilini, M. 1984. *Contribution à l'étude de l'efficacité de la vaccination antirougeoleuse chez le jeune enfant malnutri.* Bulletin de la Société de Pathologie Exotique, 77(3), 271-277 (table, fig., 29 réf.) En ISSN 0037-9085

§ Une enquête a été menée en milieu rural voltaique pour déterminer l'efficacité de la vaccination antirougeoleuse chez le jeune enfant malnutri, agé de 1 à 3 ans. Une technique d'inhibition de l'hémagglutination a été utilisée et avec un titre d'anticorps supérieur ou égal à 20, les sujets étaient considérés immunisés. La malnutrition n'apparait pas un facteur limitant la capacité de production des anticorps sériques antirougeoleux, car il n'existe pas de différence significative entre les pourcentâges de séroconversions des enfants bien et malnutris. Il est suggéré, cependant, qu'une nouvelle technique serait la bienvenue pour appréhender l'immunité réelle post-vaccinale, notamment entre les âges de 6 à 12 mois. (AU)

496 Monsted, M., Walji, P. 1978. *A demographic analysis of East Africa: a sociological interpretation.* Scandinavian Institute of African Studies, Uppsala, SE. 211 p. (tables, figs., refs.) ISBN 91-7106-126-6

§ One of the principal aims of the book is to link the analysis of demographic data on East Africa to an understanding of development process within a sociological framework. A second purpose is to produce a textbook of use to students in social and economic development planning in Africa. In the first, mor general part of the book the chapters address the following themes: historical trends in world population; demographic theories; demographic variables; the source and nature of demographic data in East Africa; and the evaluation of East African population data, and techniques for corrections. Chapters 7 to 15 are concerned more specifically with empirical data for the situation in East Africa. They include: the structure and distribution of population; mortality; nuptuality; fertility; migration; the labour force; population growth; population projection; and population policies. (F.M.)

497 Moosa, A. 1984. *The health of children in South Africa: some food for thought.* Lancet, I(8380), 779-782 (tables, 24 refs.)

§ The author examines the perinatal and infant mortality rates, disease profiles, nutritional status and other demographic and socioeconomic characteristics of the different racial groups in South Africa and relates the extreme inequalities these indicate to the white minority government's apartheid policy. (F.M.)

498 Morgan, R.W. 1981. *Distribution of modern contraceptive use in a medium income rural population in Nigeria, in the absence of an adequate health care delivery system: a preliminary determination of relationships between modern contraceptive use and levels of nutrition, child mortality, and fertility.* Final report prepared for USAID research program (grant AID-DSPE-G-0008) by Boston University and the University of Ife, 1979-81, Unpublished. 56 p. (tables, maps, figs., refs.)

§ The purpose of this study was to examine relationships between contraceptive use and levels of child nutrition, child survival, and family fertility in a predominantly rural area of southwestern Nigeria: and to test the child survival hypothesis which asserts that fertility increases as insurance against high child mortality rates, and then falls as child mortality declines. A problem of concern in the study was the suspected underreporting on infant and child mortality. The author suggests that the apparent rise in fertility shown in some of the data is an artifact of the situation of greatly misreported infant mortality. An alternative reconstruction of the data suggests that rather than rising, fertility may be stable or falling, a situation which, if true, would give support to the child survival hypothesis. Policy implications are drawn. (AU modified)

499 **Moriyama, I.M.** 1984. *Use of infant mortality for monitoring health progress.* Draft paper for International Institute for Vital Registration and Statistics, Bethesda, US, Unpublished. 39 p. (tables, 5 refs.)

§ The purpose of this study is to examine the possible sources of infant mortality data and discuss how such data may be used for monitoring infant mortality rates in connection with a program relating to Health for All by the Year 2000. The author discusses: the requirements of a monitoring system in terms of data source, geographic and population coverage, and needed data on the demographic characteristics of the population; the value and limitations of the various general sources of data for monitoring infant mortality rates; the kinds of data available from official sources in the country and from U.N. institutions; options on possible courses of action for various groups of countries. (AU modified)

500 **Moriyama, I.M.** 1984. *Advantages and disadvantages of continuous registration systems for national, subnational and differential mortality analysis.* In Department of International Economic and Social Affairs/U.N., Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 October 1981. Population studies no. 84, Department of International Economic and Social Affairs, United Nations, New York, US. pp. 47-53 (29 refs.) ST/ESA/SER.A/84

§ The author discusses the advantages and disadvantages of the current continuous death registration system as a source of data for differential mortality analysis and other mortality studies. To provide a proper perspective to the problem, a historical background relating to the development of mortality statistics is given. It is followed by brief discussions of the death registration process and the uses of both individual records and statistics derived from the death certificate. The advantages and disadvantages of the continuous registration system for the production of national mortality statistics are presented. (AU modified)

501 **Morley, D.** 1976. *Nutritional surveillance of young children in developing countries.* International Journal of Epidemiology, 5(1), 51-55 (figs., 7 refs.) ISSN 0300-5771

§ This paper discusses simple but effective methods for surveillance of growth and nutrition of children in developing countries where resources are scarce and food shortages are most likely to occur. In the youngest age group, the simplest weight-for-age chart already used is undoubtedly the best method. Where the age of children is not known, arm circumference provides an acceptable alternative. In older children, arm circumference alone may not be reliable and can be improved by measuring height as well and combining the two results. (AU)

502 **Morrow, R.H., Smith, P.G., Nimo, K.P., Ghana Health Assessment Project Team** 1981. *A quantitative method of assessing the health impact of different diseases in less developed countries.* International Journal of Epidemiology, 10(1), 73-80 (tables, 16 refs.) ISSN 0300-5771

§ A method is described for assessing quantitatively the relative importance of different disease problems on the health of a population. The impact of a disease on a community is measured by the number of healthy days of life lost through illness, disability, and death as a consequence of the disease. The measure is derived by combining information on the incidence rate, the case fatality rate, and the extent and duration of disability produced by the disease. In Ghana, it is estimated that malaria, measles, childhood pneumonia, sickle-cell disease, and severe malnutrition are the five most important causes of loss of healthy life and between them they account for 34% of healthy life lost due to all diseases. The methodology may be used to help determine the priorities for the allocation of resources to alternative health improvement procedures by estimating the number of healthy days of life that are likely to be saved by different procedures and by relating these savings to the costs of the procedures. (AU)

503 **Mosley, H., Werner, L., Becker, S. 1981.** *The dynamics of birth spacing and marital fertility in Kenya.* International population conference, Manila, PH, 1981. International Union for the Scientific Study of Population, Liège, BE. pp. 611-648 (tables, figs., refs.)

§ Childbearing patterns of currently married Kenyan women aged 15-44 were analyzed by new methods in this paper. These methods allowed estimation of the levels of fecundity and the birth intervals and assessment of the relative contributions of breastfeeding, lactational amenorrhea, and the menstruating interval to birth spacing and thus to marital fertility. The first technique requires survey data of the current reproductive status of women in conjunction with an estimate of the pregancy progression ratio and births in the past 12 months. With data of the 1978 Kenya Fertility Survey, we were able to demonstrate how social and cultural factors operate on the intermediate variables to produce some of the major differentials in marital fertility that currently exist in Kenya. In particular this analysis indicates that modernization is in some cases resulting in higher fertility. (AU)

504 **Mosley, W.H., Chen, L.C. 1983.** *An analytical framework for the study of child survival in developing countries.* Paper prepared for the workshop on child survival: strategies for research, sponsored by the Ford and Rockfeller Foundations, Bellagio, IT, 11-15 Oct 1983. Unpublished. 52 p. (figs., 64 refs.)

§ The framework presented provides a conceptual basis for holistic research into issues related to child mortality. The authors argue that infant and child mortality, rather than resulting from a single cause, are the cumulative outcome of the synergistic effects of interrelated variables. In essence, the framework is based on the identification of a set of intermediate, proximate variables that are directly related to child morbidity and mortality. It is contended that all social, economic, political, and ecological determinants (independent variables) affect child mortality through 14 intermediate variables grouped as follows: maternal factors (age, parity, birth interval); environmental contamination factors (air, food, water, fingers; skin, soil; vectors); nutrient deficiency factors (calories, protein, micronutrients); injury factors; and personal illness control factors (personal preventive measures, medical treatment). The authors argue that the intermediate variable framework provides a mode of organizing and explicating the multiple dimensions of social process and the linkages between these, the environment, dietary practice, and disease in terms of analyzing child mortality. They indicate that this has implications for providing a more rational basis for developing health policy and strategy. (F.M.)

505 **Mosley, W.H. 1984.** *Will primary health care reduce infant and child mortality? A critique of some current strategies, with special reference to Africa and Asia.* Seminar on social policy, health policy and mortality prospects, Paris , FR, 28 Feb.-4 March 1983. International Union for the Scientific Study of Population, Liège, BE. 50 p. (tables, figs., 127 refs.)

§ The relationship between national development strategy (as identified in health and socioeconomic policies) and child mortality trends and differentials is assessed with reference to Kenya. The conclusion is reached that maternal education and income level are strongly related to child survival; formal health services are not. To explore this relationship further, the author develops a conceptual framework whose key is the identification of a set of intermediate (biological) variables that directly influence the risk of morbidity and mortality and through which all social and economic determinants can be shown to operate. Five categories of variables are identified: maternal fertility factors; environmental contamination with infectious agents; availability of nutrients to the fetus and infant; injuries; personal disease control factors. The concept of social synergy as a risk factor is introduced to indicate that one social determinant, e.g., maternal education, can act independently on more than one intermediate variable to influence the risk of infant mortality, resulting in a combined risk higher than would be expected. (F.M.)

506 **Mosley, W.H. 1985.** *Biological and socioeconomic determinants of child survival: a proximate determinants framework integrating fertility and*

mortality variables. In International population conference, Florence, IT, 5-12 June 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. pp. 189-208 (tables, figs., 57 refs.) Fr ISSN 0254-5217

§ In this paper, the author develops further a conceptual framework for research on the determinants of child survival that integrates dimensions of the reproductive process (fertility and mortality) with the concerns of biomedical and social scientists. The paper proceeds by defining a set of proximate determinants of infant and child mortality that, it is hypothesized, form the basis for linking biologically determined disease processes to their social determinants at the family and wider community level. Building on a previous framework, this model includes discussion of fertility-child survival interactions. (F.M.)

507 **Mossop, R.T.** 1981. *The measurement of community health.* Central African Journal of Medicine, 27(12), 251-256 (tables, figs., 6 refs.)

§ Sample indicators of the health of communities are discussed. These include maternity service statistics, birth weight and family information, nutritional indices, and anthropometric measurement. It is suggested that such data can be collected at the periphery of the health services. From such data, community diagnostic hypotheses may be made, investigated, and followed by appropriate action. (AU modified)

508 **Mossop, R.T.** 1982. *Are we winning?* Central African Journal of Medicine, 28(5), 120-122 (tables)

§ A formidable array of relevant information is necessary for an assessment of community health and the effects of health programs on it. Such an assessment is attempted by the author for a rural district of Zimbabwe. The best indicators proved to be antenatal attendance, perinatal and infant mortality, toddler mortality, and family size. It is noted that such information is normally considered only on a national level but can be useful for local clinics in judging the impact of their promotive efforts. Some statistical data are included. (SALUS)

509 **Mott, F.L.** 1976. *Some aspects of health care in rural Nigeria.* Studies in Family Planning, 7(4), 109-114 (tables, 6 refs.)

§ Two surveys of 395 women between the ages 15 and 49 in the Ibo village of Ebendo, Nigeria, revealed the high fertility, mortality, and fetal wastage rates typical of a young population. In 1973, data were collected on these subjects as well as the women's attitudes toward family planning and fertility decision-making between husband and wife. This 1973 survey was followed in 1974 by a reinterview on health and health care for the purposes of examining patterns of health care and the general physical well-being of the community. This second survey also aimed to determine questions that could be asked by nonmedical interviewers and that would provide useful information for a health team interested in developing a health program in the community. (SALUS modified)

510 **Mott, F.L.** 1982. *Infant mortality in Kenya: evidence from the Kenya Fertility Survey.* World Fertility Survey, scientific report no. 32, International Statistical Institute, Voorburg, NL. 27 p. (tables, figs., 27 refs.)

§ Drawing on infant and child mortality information from the birth history data of the Kenya Fertility Survey, the author estimates the general level of infant mortality in Kenya, indicating how this level varies between the different socioeconomic strata and the geographic areas of the country; and examines the extent to which infant mortality levels and differentials have changed over time. Infant mortality has declined from over 160 infant deaths per 1000 births in about 1958 to a present figure of 87 deaths per 1000 live births. The most pronounced declines in infant mortality have been among first births and among higher parity births. The most significant reduction in infant mortality has occurred among women with no education, although this group still retains by far the highest mortality rate. There are striking regional differentials in recent infant mortality. Although increased education helps to explain recent declines in infant mortality, the major part of the decline must be attributed to improved distribution of food, easier access to water supplies, better access to medical and health services, and perhaps improved health measures. (AU modified)

511 **Mpaata, J.P., Kinoti, S.N.** 1983. *Growth of children suffering from sickle cell anaemia as seen at Kenyatta National Hospital.* In Tukei, P.M., Njogu, A.R., Current public-health research in the

tropics. Proceedings of the 4th annual medical conference, Nairobi, KE, 1983. pp. 202-222 (tables, figs., 20 refs.)

§ The purpose of the research reported on was to evaluate the growth pattern and nutritional status of children with sickle-cell anemia; and to estimate the relationship between the severity of sickle-cell anemia and growth and socioeconomic status. A sample population of 256 children, aged 6 months to 14 years, was studied at a hospital in Nairobi. Findings indicated that children with sickle-cell anemia from a low socioeconomic class are more affected than those from a higher class, but that the control group (without anemia) from a low socioeconomic class were nutritionally superior, as measured by anthropometry, than the children with sickle-cell anemia from a higher class. (F.M.)

512 **Mudambi, S.R.** 1981. *Breast-feeding practices of mothers from mid-western Nigeria.* Journal of Tropical Pediatrics, 27(2), 96-100 (tables, 9 refs.)

§ Interviews with 50 literate and 60 illiterate nursing mothers and 40 nurses held in health centres and clinics in midwestern Nigeria revealed the following: the majority of literate mothers breastfed their infants for 2-9 months while the illiterate mothers breastfed for 6-18 months; the majority of literate mothers expressed a preference for bottle-feeding over breastfeeding; 104 of the 110 mothers were using artificial milk supplements, 61 of them from the first month; and 47% of the mothers had been advised by their nurses to use milk supplements. Further questioning revealed that mothers were highly influenced by advertisements for milk substitutes and the need to counteract this influence by involving all medical personnel in the promotion of breastfeeding is strongly indicated. (SALUS)

513 **Mulekya, M.H.** 1976. *La lutte contre le kwashiorkor au Zaïre: la campagne soja dans le Kivu.* Carnets de l'enfance, 35, 41-52 (table, 8 réf.) En, Es

§ La situation alimentaire du Bushi au Kivu a été rendue très critique par la poussée démographique, la rareté des terres arables, l'extension des bananiers à bière, l'augmentation de la consommation du manioc au détriment de plantes plus riches en protéines comme le sorgho. Une telle situation se répercute en premier lieu sur les enfants. L'introduction du soja, sa transformation en biscuits, l'éducation nutritionnelle des populations, la promotion des productions locales riches en protéines, telles sont quelques-unes des solutions mises en oeuvre par le Comité de lutte contre le kwashiorkor au Kivu. (AU)

514 **Muller, A.S., Voorhoeve, A.M., Mannetje, W.T., Schulpen, T.W.** 1977. *The impact of measles in a rural area of Kenya.* East African Medical Journal, 54(7), 364-372 (tables, fig., map, 11 refs.) ISSN 0012-835x

§ During 3 years of measles surveillance by fortnightly home visits in a rural population of 24,000 in Kenya, two incidence peaks were observed; not a single month was entirely free of measles. The median age of cases was 32 months, and approximately 80% of them were below 5 years of age and 17% below 1 year. The case fatality rate was much higher during the first outbreak (6.5%) than during the second (1.7%). Evidence is presented that the nutritional status less than 3 months before contracting the disease was better during the second epidemic that during the first and that the preceding nutritional status of those patients who died was poorer than that of those who survived. (AU)

515 **Muller, A.S., Ouma, J.H., Mburu, F.M., Blok, P.G., Kleevens, J.W.** 1977. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya. I Introduction, study design and methodology.* Tropical and Geographical Medicine, 29(3), 291-302 (tables, fig., maps, 5 ref.)

§ The objectives of a longitudinal population-based project in part of the Machakos district of Kenya were to obtain accurate data on pregnancy outcome and on morbidity and mortality from a number of acute infectious childhood diseases; to investigate nutritional factors and factors of the social, biological, and physical environment which may have a bearing on the observed disease pattern; and to develop a system of registration of births, deaths, and morbidity suitable for use in a district in Kenya having limited resources. Each of the 4000 households in an area of 8700 ha (total population 24,000) is visited every fortnight by a fieldworker who records pregnancies, births, deaths, migrations, and morbidity from measles, whooping cough, other respiratory infections, and acute diarrhea among children 0-4 years of age. Simultaneously, a longitudinal growth study of a sample of 500 children is being *mortality variables.* In International population conference, Florence, IT, 5-12 June 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. pp. 189-208 (tables, figs., 57 refs.) Fr ISSN 0254-5217

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516 **Muller, A.S., Schulpen, T.W., Gemert, W., Valkenburg, H.A., Voorhoeve, A.M.** 1977. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya; III: the epidemiology of measles.* Tropical and Geographical Medicine, 29(4), 428-440 (tables, 25 refs.)

§ From April 1974 to March 1976, 12 fieldworkers in a Machakos, Kenya, project carried out measles surveillance by making fortnightly home visits to some 24,000 inhabitants in 4000 scattered households. The estimated attack rate for the susceptible population aged 0-15 years was 13.5% with 15% of cases occurring in infants aged less than 1 year. The estimated fatality rate was 6.5%; mortality was highest in children aged 1-2 years. For children aged 0-15 years, measles accounted for 16.7% of all deaths. The epidemiology of measles in the area is discussed. Statistical data are included. (SALUS)

517 **Muller, A.S., Leeuwenburg, J., Voorhoeve, A.M.** 1984. *The epidemiology of pertussis and results of a vaccine trial.* In van Ginneken, J.K., Muller, A.S., Maternal and child health in rural Kenya: an epidemiological study. Croom Helm, London, GB. pp. 95-108 (tables, figs., 14 refs.) ISBN 0-7099-2608-1

§ As part of the disease surveillance system of the Machakos study project, researchers tested whether an immunization schedule of two, rather than the standard recommendation of three, injections of diphtheria-pertussis-typhoid (DPT) vaccine would provide sufficient protection against pertussis in infancy. Data were collected from 902 children. Conclusions indicated that two DPT doses do provide adequate protection when given 6 months apart. Where problems of access to health facilities do not exist, the authors recommend the three-dose schedule. (F.M.)

518 **Murphy, M., Baba, T.M.** 1981. *Rural dwellers and health care in northern Nigeria.* Social Science and Medicine, 15A, 265-271 (maps, figs., 27 refs.) ISSN 0271-7123

§ Villages and the health services available to rural dwellers in a northern region of Nigeria are described. The villages were visited as part of a social study of 100 gynecological patients attending ABU Teaching Hospital, Zaria, to determine the availability and utilization of health care facilities. It was found that the majority of villagers had no ready access to orthodox health care facilities and, where such services existed, villagers used both orthodox and traditional systems. In the case of obstetric services, sociocultural traditions and lack of education appear to affect adversely women's propensity to utilize obstetric care with resulting maternal gynecological problems and increased perinatal mortality. Locally initiated cooperative enterprise indicates that an integrated approach to health care delivery would achieve good results in making health care facilities more readily available to the people. It was seen that it will be necessary to ensure a pure water supply, a good road system, and educational and economic development. (AU modified)

519 **Murray, M.J., Murray, A.B.** 1978. *Diet and cerebral malaria: the effect of famine and refeeding.* American Journal of Clinical Nutrition, 31(1), 57-61 (tables, 26 refs.) ISSN 0002-9165

§ In an outbreak of *Plasmodium falciparum* malaria following refeeding after famine, cerebral malaria was restricted to children eating grain. Nomad children consuming a predominantly milk diet were free of this complication despite an equivalent incidence of uncomplicated malaria. Freedom of nomads from cerebral complications may be due to inhibition of rapid division of the parasite by the milk diet combined with delayed recovery of T-cell function after famine. (AU)

520 **Muyala Bempui, T., Bandora, P., Lukusa, T., Bunga, M., Kapepela, K.** 1980. *Morbidité dans le centre des prématurés des cliniques universitaires de Kinshasa.* Le Pédiatre, 16(70), 33-42En

§ Les auteurs établissent le bilan des soins donnés dans une clinique universitaire de Kinshasa durant les années 1972 à 1976 et relèvent les principales causes de la morbidité. Parmi 1093 nouveau-nés de faible poids de naissance (< 2100 g), 427 sont enregistrés dont cas morbides (39 %); les dysmatures malades représentent le 5e de ces derniers. Les étiologies les plus importantes sont l'entérite infectieuse et le syndrome de détresse respiratoire, la première constituant la pathologie d'après le premier septnaire, et la deuxième celle du premier septnaire. La mortalité est très élevée chez les enfants de faible poids, malades (37 %) et elle est étroitement liée au poids de naissance. L'enquête épidémiologique prospective dans le cadre de l'entérite démontre que le personnel paramédical en constitue la source permanente. Le rôle protecteur du lait maternel probablement par les IgA qu'il apporte confirme la littérature. (AU) *

521 **Mwaikambo, E.D.** 1983. *Measles: natural disease after measles vaccination as seen in Muhimbili Medical Centre. Dar es Salaam.* In Tukei, P.M., Njogu, A.R., Current public-health research in the tropics. Proceedings of the 4th annual medical conference, Nairobi, KE, 1983. pp. 46-52 (tables, fig., 21 refs.)

§ During the month of December 1980, 189 children with acute measles, admitted to Muhimbili Medical Centre, were studied for their measles-immunization status. Of these, 54 (28.6%) were found to have received their primary immunization. Of the 54 children, four (7.4%) died. The majority of vaccination failures (66.7%) had occurred in babies vaccinated before the age of 8 months. Clinical presentation of the children with vaccination failure, including age pattern, severity, and complications, was similar to that of measles in unvaccinated children. Concern over the increase of measles despite immunization, problems of measles immunization, and factors contributing to vaccination failures are discussed. (AU)

522 **Mwanamwambwa, C., Tadesse, Z.** 1979. *Children in Zambia.* Swedish International Development Authority, Stockholm, SE. 102 p. (tables, refs.) ISBN 91-586-7004-1

§ The authors discuss the situation of children in Zambia in the context of socioeconomic reality. The relationships, direct or indirect, between such variables as income, education, nutrition, access to health services, water and sewage facilities, and housing are considered with reference to stratification in Zambian society. In the second part of the book, analysis is closely linked to government policy in the fields of education, health, nutrition, food production, and the environment. Recommendations follow. (F.M.)

523 **Naeye, R.L., Dozor, A., Tafari, N., Ross, S.M.** 1977. *Epidemiological features of perinatal death due to obstructed labour in Addis Ababa.* British Journal of Obstetrics and Gynaecology, 84, 747-750 (tables, 8 refs.) ISSN 0306-5456

§ Obstructed labour was the second most common cause of perinatal death in Addis Ababa, Ethiopia, being responsible for 9.1 perinatal deaths per 1000 births. Most obstructed labours were due to cephalopelvic disproportion. The pelvic contractions responsible for obstructions were probably due to childhood and adolescent malnutrition. There was a ninefold increase in the perinatal death rate when the patients were anemic but most perinatal deaths were due to delays in seeking available obstetrical care. Formal education of the patients had little influence on the death rates but the informal education that comes with prolonged urban residence had a markedly favourable effect. Use of prenatal medical services and adequate income also had a favourable influence. (AU modified)

524 **Naeye, R.L., Tafari, N., Marboe, C.C., Judge, D.M.** 1977. *Causes of perinatal mortality in an African city.* Bulletin of the World Health Organization, 55(1), 63-65Fr

§ The purpose of this research was to identify the causes of death in a large-scale analysis of perinatal mortality in Addis Ababa, Ethiopia. A 72% autopsy rate was achieved when 1019 postmortem examinations were performed for 1424 consecutive perinatal deaths. The overall perinatal mortality rate was 65.3 per 1000 live births. The ratio of stillbirths to neonatal deaths was 1.7 : 1, indicating that maternal factors were dominant in causing the deaths. One-third of the deaths were due to amniotic fluid infections, 15% to obstructed labour, 8% to abruptio placentae, and the rest to more than 20 other specific disorders. The authors indicate that earlier arrival of mothers at delivery centres and improved obstetrical practices could reduce the perinatal mortality rate. (AU modified)

525 **Naulleau, E.** 1984. *L'utilisation des données EMF sur la mortalité infantile et juvénile pour l'évaluation des données EMIJ.* Document préparé pour la Quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1984. Inédit. 17 p. (tables, 7 réf.)

§ Conçues pour l'étude de la fécondité, les enquêtes réalisées dans le cadre du projet EMF (Enquête mondiale sur la fécondité) se sont néanmoins avérées être une source très riche et d'une qualité somme toute très acceptable de données sur la mortalité en bas âge. Elles peuvent à ce titre être utilisées à la fois comme source externe propre à laquelle on peut comparer d'autre données pour tester la cohérence réciproque et pour tenter une mesure approchée de la représentativité d'échantillons plus restreints. Ici l'auteur fait tout d'abord un tour d'horizon de l'ensemble des données existantes, puis il indique quelques possibilités d'utilisation de ces données dans le cadre de l'EMIJ. (AU abrégé)

526 **Nchinda, T.C.** 1977. *Household study of illness prevalence and health care preferences in a rural district of Cameroon.* International Journal of Epidemiology, 6(3), 235-241 (tables, 7 refs.)

§ This report gives the results of a health interview survey, using a recall interval of 1 month, in rural Cameroon, carried out between 5 November 1983 and 7 March 1974 on a random selection of 1886 families with 9362 individuals. The disease prevalence in the study area (a positive illness rate of 27.8% for a 4-week recall period) is analyzed by age, sex, and treatment preference. People under the age of 15 years suffered predominantly from respiratory (20%), digestive (29%), and parasitic (12.5%) diseases for which Western treatment was preferred (average of 65%). In adults, musculoskeletal, digestive diseases and generalized body pains were responsible for 63.0% of diseases in the age group 45 and over. The treatment choice was partly Western (50%) and partly traditional (20%). Traditional treatment was generally preferred for seizures (65%) and mental illnesses (87%) except for children under 4 years who received 50.6% treatment for seizures from traditional sources and 49.4% from Western sources. (AU)

527 **N'cho Sombo, Tabutin, D.** 1985. *Tendances et causes de la mortalité à Maurice depuis 1940.* Population, 3, 435-454 (tables, fig., 18 réf.) En, Es

§ L'Ile Maurice a connu une chute brutale de la mortalité en 1949-50, due aux campagnes d'éradication de la malaria. Le taux de mortalité est tombé de 24 à 14 p. 1000. La mortalité a ensuite décru régulièrement, puis a ralenti ces dernières années, sans mouvements majeurs, dans l'ensemble, pour atteindre un taux de 7,3 p. 1000 en 1979-80. Les femmes, en particulier, ont plus profité des progrès accomplis et ces quelques dernières années, elles confirment cet avantage alors que la mortalité masculine stagne. La sumortalité féminine entre 1 et 35 ans disparait prèsque en 1977. La mortalité de 0 à 5 ans, dans l'ensemble, a très fortement baissé en 25 ans : le quotient de mortalité des garçons passe de 166 p. 1000 à 55 p. 1000, celui des filles est de 156 à 48 p. 1000, ce qui correspond à un déclin de près de 70 %. Plus de 50 % de la baisse de la mortalité infantile sur la période 1969 à 1979 est attributable à la régression des maladies infectieuses et parasitaires. (AU modifié)

528 **Ndiaye, A.M., Fournie, J., Rougereau, A., Sidatt, M.** 1977. *Enquête nutritionnelle à Boutilimit (Mauritanie).* Médecine et Nutrition, 13(6), 461-472 (tables)

§ Les auteurs analysent l'état nutritionnel d'un échantillon de 515 enfants âgés de quelques mois à 12 ans et vivant dans une région relativement éloignée de la Mauritanie. Leur étude, qui utilise des mesures anthropométriques et cliniques, indique un état nutritionnel généralement satisfaisant. (F.M. traduit)

529 **Nesset, T.B.** 1979. *Primary health care and rural development: a broad view of health-related problems, practices, and services affecting ten small villages in Southern District, Botswana.* DERAP working paper no. A153, Christian Michelsen Institute, Bergen, NO. 132 p. (tables, 51 refs.)

§ In the context of a widespread move toward an emphasis on a primary health care (PHC) system, the objective of this study is to evaluate this system in southern Botswana and to recommend ways in which it can be improved. Data are drawn from a 2-year period of participant observation in the area and from a survey carried out over 3 months in 1978 of 100 households in the district. Interviews with health and other officials were included as well as research reports and public documents. The main topics include: a discussion of the PHC system; nutritional status of the study population; water, environmental sanitation, and living conditions; health education; maternal-child health; illness and treatment including a discussion of the indigenous health system; and policy recommendations. (F.M.)

530 **Newman, J.L., Lura, R.P.** 1983. *Fertility control in Africa.* Geographical Review, 73(4), (20 refs.)

§ A model for conceptualizing fertility control in Africa is presented with reference to two pastoral societies, the Kipsigis and the Fulani. The author argues that child spacing in marriage has been the main factor conditioning fertility. In situations where children are valued highly, inter alia for their economic role and their role in forging social relationships, the desire for children is balanced by a concern to minimize infant and child mortality and to maintain the societal structure of male-centred gerontocratic authority. Fertility control then is part of a large cultural patterning where prolonged breastfeeding, postpartum sexual abstinence, and mechanisms of social dominance work together to achieve child spacing. (F.M.)

531 **Newman. J.S.** *Nutrition. disease and mortality in young children.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET . pp. 513-526 (tables, 15 refs.) ST/ECA/SER.A/1

§ Noting that it is difficult to measure accurately the role malnutrition plays in infant and child mortality, the author reviews research on nutrition and disease as it relates to mortality and then proposes a series of child survival strategies. The objectives of the latter would include: ensuring that mothers have adequate knowledge about child care, nutrition, sanitation, and disease and access to adult education programs; improving of the women's access to resources of production; decreasing women's heavy workload by increasing the efficiency and productivity of tasks for which they are responsible through access to technological innovation; improving child care arrangements; and creating a supportive social environment for good child care. The author argues that a strategy which includes these elements would be agriculture and rural centred, would promote additional employment opportunities in rural areas, and would attempt to reduce income disparities in society. (F.M.)

532 **Ngwe, E.** 1980. *L'enquête sur la mortalité infantile et juvénile à Yaoundé.* In Institut de Formation et de Recherche Démographiques, Actes du colloque de démographie d'Abidjan. Institut de formation et de recherche démographiques, Yaoundé, CM. pp. 44-65 (2 réf.)

§ Cette communication est la présentation de la méthodologie et l'organisation ainsi que le bilan de l'enquête à Yaoundé. L'enquête, suivie en deux phases a portée sur un échantillon des naissances de 12 mois survenues en maternités des mères résidant à Yaoundé. Sont également considérées les naissances survenues à domicile lorsque les mères se présentent à la maternité immédiatement après l'accouchement pour les soins post-partum. Le questionnaire a été dressé d'une manière à permettre d'identifier les caractéristiques de la mère, du nouveau-né, (né vivant ou mortné), le développement de l'enfant et les modifications de la situation de la mère. L'organisation de l'enquête comportait deux points : préparation technique et préparation administrative et s'est déroulée en quatre niveaux : répartition des enquêteuses, enrégistrement des naissances, passages à domicile et contrôle du travail. La configuration complexe de l'agglomération de Yaoundé et le manque de conscience professionnelle de certains agents ont posé de problèmes. (PIDSA) *

533 **Niameogo, C.** 1976. *Les monitrices de bouillies en zones rurales de Haute-Volta.* Carnets de l'enfance, 35, 31-40En, Es

§ Les services de santé de Burkina Faso, au moment même où sévissait la sécheresse et où se posait le problème de la distribution de vivres de secours aux populations, ont porté une attention toute particulière à la nutrition. Des enquêtes, bien que rapides et sommaires, ont permis de constater que la malnutrition se développait chez les enfants en bas âge, surtout en zones rurales, où elle était la cause directe ou indirecte d'une mortalité très élevée. Une action de masse, grâce à des méthodes de dépistage simplifiées, l'emploi d'auxiliaires et la participation active des mères, a permis d'enregistrer des résultats spectaculaires dans le domaine de la prévention et de la réhabilitation nutritionnelle. (AU)

534 **Nicholas, D.D., Belcher, D.W., Kratzer, J.H., Ofosu-Amaah, S.** 1977. *Is poliomyelitis a serious problem in developing countries? - the Danfa experience.* British Medical Journal, 1(6067), 1009-1012 (tables, 25 refs.)

§ Children were examined for lameness in the Danfa Project district of rural Ghana to assess the impact of endemic poliomyelitis and to test a widely held hypothesis that paralytic poliomyelitis is relatively rare in such districts (less than 1 per 1000 children affected). The observed prevalence of lameness attributable to poliomyelitis was 7 per 1000 school-aged children and the annual incidence is estimated to be at least 28 per 100,000 population. Although no evidence for an epidemic was found, these rates are comparable to those in the USA and Europe during the years of severe epidemics and indicate that a high price is being paid in the Danfa district for the natural acquisition of immunity. As a result, immunization against poliomyelitis has been given high priority. A teacher questionnaire was also tested for use in postal surveys as a rapid means of estimating the prevalence of lameness attributable to poliomyelitis in countries with a reasonable network of primary schools. (AU)

535 **Nicolas-Randegger, J., Andoh, J., Aholi, P., Essoh Nomel, P.** 1983. *La tuberculose chez l'enfant hospitalisé en Côte d'Ivoire. à propos de 111 cas : relation avec la malnutrition.* Revue de Pédiatrie, 19(1), 23-32 (table, fig., 28 réf.) En

§ De l'analyse de 111 cas de tuberculose initiale de l'enfant hospitalisés à Abidjan (Côte d'Ivoire) ressortent plusieurs faits. De nombreux enfants (32 %) ont été vaccinés antérieurement et présentent des formes de tuberculose grave, ce qui remet en cause l'efficacité du vaccin BCG. Les raisons de cette inefficacité sont multiples, la baisse des défenses immunitaires chez des enfants en mauvais état nutritionnel joue certainement un rôle important. Les formes de tuberculose décrites sont regroupées en quatre stades de gravité croissante, les formes graves et généralisées correspondant à une invasion massive du BK dans un organisme affaibli par la malnutrition. Le diagnostic de ces formes est très souvent difficile, car les réactions tuberculiniques sont négatives dans 30 % des cas environ, et le BK est rarement retrouvé, ce qui conduit à mettre au traitement spécifique des enfants dont la vie est en danger même sans preuve formelle de la tuberculose. L'état nutritionnel conditionne l'hospitalisation et son amélioration est le critère retenu pour la sortie de l'enfant et la poursuite du traitement en ambulatoire. Ainsi la lutte antituberculeuse dans les pays tropicaux, bien codifiée actuellement par l'adulte l'est-elle beaucoup moins pour l'enfant, du fait de la relation étroite entre primo-infection et malnutrition. (AU)

536 **Nnanyelugo, D.O.** 1982. *Nutritional practices and food intake measurements and their relationship to socio-economic grouping. location and their apparent nutritional adequacy in children.* Appetite, 3(3), 229-241 (tables, figs., 23 refs.) ISSN 0915-6663

§ Information is not available on the nutrient intake of children of different socioeconomic groups in Anambra State. Food consumption and anthropometric measurements were undertaken on 3466 children representing a cross-section of the population. Weighed individual food intake was measured on a subsample of the children. At least 60% of the total food energy was derived from carbohydrate: 15% of the children had a protein intake less than FAO recommendations and 25% had an energy intake less than FAO recommendations. The proportion of total energy intake derived from protein was 15% for children of farmers and 12% for children of civil servants at preschool age, decreasing at similar rates in both occupation groups at school age. Intakes of vitamin A were marginal and 80% of the children met FAO requirements at 2 years old. There were similar inadequacies in the intakes of riboflavin, thiamin, and calcium, which were greater in the case of children of traders and civil servants than in the case of children of farmers. By 2 months old, 90% of the urban children and 70% of the rural children had started supplementary feeding and only 20% of the urban infants were being breastfed. (AU abbrev.)

537 **Nnanyelugo, D.O.** 1983. *Major nutritional problems of children in Nigeria and possible solutions - Anambra State experience.* Growth, 47(4), 381-396 (tables, 17 refs.)

§ Seventeen towns in Anambra State, Nigeria were investigated with a view to identifying some of the existing nutritional problems of children in Nigeria. Information on nutritional status and demographic data were obtained by visiting the primary schools, maternity homes, and the child welfare centres. House to house visits were also made. A total of 3406 children (0-17 years) were seen. Analysis of data revealed, among other things, a high incidence of malnutrition as judged by weight-for-age measurements according to the Harvard standard values.

Thirty per cent of the 3 year olds and 20% of the older girls and boys were severely malnourished. Poor earning power, poor management of money and food, poor methods of food preparation, and high cost of foods were major causes of malnutrition in urban and rural areas. Economic development had in general led to an improvement in nutrition, but reliance on economic growth in Anambra State would not significantly reduce the great differences in the standard of living. Many malnourished children came from the poorest sectors of the society which are likely to benefit only slowly from an increase in the average standard of living. A more realistic approach may be gradual introduction (from a few schools) of free school milk with snack or hot school lunch programs in Anambra State. (AU)

538 **Nnanyelugo, D.O.** 1984. *Evaluation of milk and nutrient intakes of school children in Nigeria.* Appetite, 5(3), 175-185 (tables, 22 refs.) ISSN 0195-6663

§ The study was conducted to evaluate the contribution made by school milk to the nutrient intake of 246 primary school children in urban and rural areas of Anambra State, Nigeria. Of the urban sample, 90% were drawn from families where a parent was a university lecturer, 10% where there was a nonteaching civil servant. In the rural sample, 34% of the children came from a farming family, 15% from a family with a civil servant, and 15% with a businessman as parent. Information collected included medical data, socioeconomic data, feeding patterns, and weighed food intakes. Children who drank school milk daily, when compared with those who did not, had higher, statistically significant mean daily intake for several nutrients including calcium and riboflavin ($p < 0.001$) in both sexes and groups; protein and fat for rural children ($p < 0.001$); and vitamin A for urban and rural boys ($p < 0.001$). Symptoms suggestive of lactose intolerance were low in the population investigated. The relative beneficial effects of milk supplementation were more marked in rural than in urban children. (AU modified)

539 **Ntitebirageza, E.** 1984. *Multi-round surveys on infant and child mortality.* In Vallin, J., Pollard, J.H., Heligman, L., Methodologies for the collection and analysis of mortality data: proceedings of Methodology and data collection in mortality studies, Dakar, SE, 7-10 July 1981. International Union for the Scientific Study of Population, Ordina Editions, Liège, BE. pp. 49-63 (tables, 3 refs.) Fr ISBN 2-87040-032-2

§ In this paper, the approach to the measurement of levels of infant and child mortality and the demographic and socioeconomic factors affecting mortality of the Institut de formation et de recherche démographique (IFORD) is compared to the WHO ad hoc surveys carried out in Kabul, Algiers, and Sierra Leone. IFORD's surveys in six capital cities in Africa were prospective and involved followup over a 2- to 3-year period of registered births whereas WHO surveys combined both prospective and retrospective approaches. The advantages and problems associated with multiround surveys are assessed. (F.M.)

540 **Ntitebirageza, E., Hie, J.M.** 1984. *Bilan de l'exploitation de l'enquête sur la mortalité infantile et juvénile à Yaoundé (EMIJY).* Document préparé pour la Quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1985. Inédit. 81 p. (tables) Fr

§ L'objectif de ce document est de discuter la phase d'exploitation des données de l'enquête sur la mortalité infantile et juvénile réalisée à Yaoundé. Avant de décrire la manière dont l'enquête a été exploitée, l'auteur examine brièvement la nature des données dont on disposait, les objectifs visés à travers cette phase ainsi que la méthode d'exploitation utilisée. (AU modifié)

541 **Ntozi, J.P.M.** 1985. *An appraisal of the utility of African census data for estimating vital rates.* In International population conference, Florence, IT, 5-12 June 1985, vol. 4. 4, International Union for the Scientific Study of Population, Liège, BE. pp. 507-523 (22 ref., tables) Fr ISBN 2-87108-009-9 ISSN 0254-5217

§ The problem of estimating vital rates in Africa has been caused by lack of requisite data, poor quality of available information, and lack of the appropriate techniques to derive the rates. Fortunately, the 1970 and 1980 rounds of censuses in Africa witnessed an increasing number of countries conducting complete enumeration exercises. This paper reviews the quality of the African data from the 1970 and 1980 series of censuses. By applying several quality check techniques, the author found that the statistics on age, sex, fertility, mortality, and migration have recently greatly improved. However, some errors still remain in the data. This calls for more efforts to further improve the methods of data collection, processing, and analysis. (AU)

542 **Nur, A.O., Darnton-Hill, I.** 1985. *Infant feeding in Mogadishu, Somalia.* Ecology of Food and Nutrition, 17(3), 219-229 (tables, 13 refs.) ISSN 0367-0244

§ A sample of 384 mothers with a child under 12 months of age and living in Mogadishu, Somalia, were interviewed concerning infant feeding beliefs and practices; 42 nurses from mother-and-child health (MCH) centres were also interviewed. Sociodemographic factors that might affect infant feeding were investigated, including the place of birth of the child and the education of parents. It was found that 46% of the children less than 1 year old had been born at home and that these mothers were significantly more likely to breastfeed their baby earlier. Only 2% (7) of mothers had never breastfed the child. Of all the mothers, 49% gave some sort of drink or food to their child before the first breastfeed. Responses of the MCH nurses showed that 19% (4) had not breastfed their most recent child and that 17% (7) thought colostrum was not good for the baby. Both short- and long-term interventions are suggested. (AU)

543 **Nur, O.E.M.** 1983. *Infant and child mortality and its effect on reproductive behaviour in the northern provinces of Sudan.* Population Studies Center research report contract no. AID/DSPE-C-0076 (grant no. H820), Population Studies Centre, University of Gezira, Wad Medani, SD. 68 p. (29 refs.) PSC research report, contract no. AID/DSPE-C-0076

§ This study uses the detailed information on infant and child mortality collected for the first time for a larger part of the country by the 1979 Sudan Fertility Survey. It investigates the levels, trends, and differentials in the rates of infant and child mortality and examines the effect of infant mortality on the fertility behaviour of couples. Chapter 2 discusses briefly the data used in this analysis and examines the quality of data by a series of procedures designed to detect reporting errors. Chapter 3 provides estimates for the levels, trends, and age structure of infant and child mortality. Chapter 4 investigates the differentials in infant mortality by selected demographic and socioeconomic variables. Both simple associations between these variables and infant mortality and the net effect of each variable on infant mortality are considered. The investigation of the net effect is accomplished with a multivariate logistic regression model. Chapter 5 explores the effect of infant mortality on the reproductive behaviour of women using the technique of multiple classification analysis. Finally, chapter 6 presents a summary of the more important results, conclusions, and policy implications. (AU)

544 **Nwosu, A.B.** 1981. *Human neonatal infections with hookworms in an endemic area of southern Nigeria; a possible transmammary route.* Tropical and Geographical Medicine, 33(2), 105-112 (tables, figs., 28 refs.)

§ Examination of fecal smears of 316 neonates (aged 4-5 weeks) in a human hookworm endemic area of southern Nigeria showed that 33 (10%) of them were hookworm infected. The majority of infections were due to *Ancylostoma duodenale*, although *Necator americanus* was the most prevalent hookworm species in the area. The incidence of neonatal infections was pronounced (64%) for mothers who were *A. duodenale*-positive 5-6 weeks postpartum. A thorough screening of 12.4 litres of colostral milk from the 316 nursing mothers failed to show the presence of infective hookworm larvae. These results indicate the possibility of a transmammary infection route for the human hookworm *A. duodenale*. (AU)

545 **Nwuga, V.C.** 1977. *Effect of severe kwashiorkor on intellectual development among Nigerian children.* American Journal of Clinical Nutrition, 30(9), 1423-1430 (tables, ill., 27 refs.)

§ In Nigeria, a sample group of urban, school-age children with diagnosed kwashiorkor and four control groups consisting of siblings, an upper-class group, a lower-class group, and a rural kwashiorkor group were given psychological tests to measure intellectual abilities. The sample group had lower levels of certain skills, especially the higher cognitive skills, than their siblings and the other control groups, except their rural counterparts. Boys tended to be more affected by severe kwashiorkor than girls. The upper-class group was superior in weight and height measurements as well as in the various measures of intellectual

abilities. The contribution of other factors besides malnutrition to these results is acknowledged. (AU modified by SALUS)

546 **Nzita Kikhela, D.** 1982. *Organisation et données préliminaires de l'enquête sur la mortalité périnatale à Kinshasa.* Département de Démographie, Université Catholique de Louvain, BE, document de recherche no. 69, Inédit. 37 p. (tables, carte, fig., 35 réf.)

§ La recherche que l'auteur a entreprise porte sur le niveau et sur les facteurs de la mortalité périnatale à Kinshasa. L'objet de cette étude consiste notamment à identifier les caractéristiques des femmes de la ville de Kinshasa qui présentent un haut risque de mortinatalité et de celles dont les nouveaux-nés présentent une forte probabilité de décéder dans les 7 premiers jours de la vie. L'auteur discute les principales sources de données actuellement disponibles dans le domaine de la mortalité au Zaïre. Puis il décrit une proposition d'un cadre analytique pour la mortalité périnatale et la collecte des données qu'il vient d'effectuer à Kinshasa. (AU modifié)

547 **Nzita Kikhela, D.** 1982. *Ajustement de quelques schémas de la mortalité africaine par les tables-type à double "entrée".* Document présenté au cours d'un séminaire sur les modèles démographiques au Département de Démographie, Université de Kinshasa, Kinshasa, ZR, 15-22 Dec. 1982. 35 p. (tables, 17 réf.)

§ Suite à une discussion de plusieurs séries des tables-types de mortalité, l'objet de la première partie de ce document porte sur la détermination des meilleures "entrées" à utiliser pour les tables-logits de Brass. Dans la deuxième partie l'auteur commence par choisir quelques tables de mortalité observées en Afrique. Ensuite il détermine les meilleures "entrées" du standard africain de Brass en utilisant la méthode des points moyens. Puis il effectue une estimation de chacune des tables de mortalité africaine retenues. Les données ainsi obtenues sont comparées aux estimations fournies pour les mêmes tables africaines par les modèles de l'OCDE. (AU modifié)

548 **Nzita Kikhela, D.** 1984. *Familles à risque et niveaux de la mortalité périnatale à Kinshasa.* Département de Démographie, Université Catholique de Louvain, rapport no. 1, Inédit. 36 p. (tables, carte, 26 réf.)

§ La recherche entreprise porte sur la détermination des niveaux et les caractéristiques de la mortalité périnatale dans l'agglomération urbaine de Kinshasa, sur l'identification des familles à risque et sur un essai d'explication de la variabilité de cette mortalité selon les types de familles qui auront été identifiés. Parmi ces trois objectifs, les deux premiers sont abordés dans ce texte. Pour ce faire, on présentera par la suite la méthodologie adoptée, l'origine des données, le niveau général de la mortalité périnatale à Kinshasa, la variation différentielle de cette dernière (selon les variables démographiques, socio-économiques et culturelles) et les familles à risque. (AU modifié)

549 **Nzita Kikhela, D.** 1986. *Techniques de collecte et d'analyses de la mortalité périnatale en Afrique noire : l'expérience d'une enquête à Kinshasa.* Départment de Démographie, Université Catholique de Louvain, BE, Inédit. 97 p. (tables, fig., 51 réf.)

§ Dans ce document, l'auteur présente une méthodologie adoptée pour l'étude EMOKIN, étude de la mortalité périnatale à Kinshasa. Il examine d'abord quelques problèmes généraux qu'on peut rencontrer dans le cadre d'une telle étude (choix d'une méthode de collecte et d'analyse, choix des variables à utiliser). Ensuite, il indique de quelle manière on y a répondu pour l'étude menée durant les 5 dernières années sur Kinshasa. Le centre d'intéret portera essentiellement sur les précautions prises pour la collecte des données de bonne qualité et sur le processus suivi pour deux de ses objectifs principaux : l'identification des familles à risque et l'explication du haut niveau de leur mortalité. (AU abrégé)

550 **Obi, J.O.** 1979. *Morbidity and mortality of children under five years old in a Nigerian hospital.* Journal of the National Medical Association, 71(3), 245-247 (table, 8 refs.)

§ The major causes of morbidity and mortality in children aged less than 5 years admitted to a Nigerian hospital are presented as statistical data and discussed. These children constituted 83.6% of hospital admissions and 87.3% of deaths. The highest mortality occurred in children aged 1-4 years. Infections and malnutrition (both preventable) constituted 75.1% of total

admissions and 85.8% of total mortality. Consequently, the author stresses the need for preventive community services that could reduce child mortality even without associated environmental and socioeconomic improvements. (SALUS)

551 **Obi, J.O.** 1979. *Measles in hospital practice in Nigeria.* Journal of Tropical Pediatrics and Environmental Child Health, 25(1), 30-33 (tables, figs., 11 refs.)

§ Of 250 children, most aged less than 2 years, with measles admitted to the Children's Hospital in Benin City, Nigeria, from June 1972 to May 1973, 36 (14.4%) died, 27 from bronchopneumonia, 5 from gastroenteritis, 2 from laryngotracheobronchitis, and 2 from otitis media and pyogenic meningitis. Other serious but nonfatal complications included mediastinal emphysema, febrile convulsions, encephalitis, blindness of unstated etiology, cancrum oris, and otitis media without meningitis. Early vaccination against measles at 8 months of age with a booster at 15 months is recommended for Nigerian children. Statistical data are included. (AU modified by SALUS)

552 **Odebiyi, A.I.** 1977. *Socio-cultural factors affecting health care delivery in Nigeria.* Journal of Tropical Medicine and Hygiene, 80(11), 249-254 (16 refs.)

§ The Nigerian concept of disease (generally believed to be caused by supernatural or enemy interference) leads naturally to a preference for traditional rather than Western medicine. The author discusses certain customs, taboos, and habits that not only create health problems but also frustrate the efforts of modern medicine, including forced hand feeding and tongue feeding of Yoruba infants, female circumcision, the care of motherless infants, fattening brides-to-be, and the application of a herbalist mixture containing dung to the cut cord of newborns. Suggestions for overcoming some of these problems are given. (SALUS)

553 **Odebiyi, A.I., Ekong, S.C.** 1982. *Mothers' concept of measles and attitudes towards the measles vaccine in Ile-Ife, Nigeria.* Journal of Epidemiology and Community Health, 36(3), 209-213 (tables, 30 refs.)

§ In a study of 200 mothers interviewed in 1980 in Ile-Ife, findings indicated that the attitude of Nigerian mothers, mainly Yoruba, toward measles vaccine and other aspects of prevention are influenced by different perceptions of the cause of measles. There is a significant correlation between the literacy of mothers and their belief in the efficacy of measles vaccine but not between their ages and belief. The mothers' perception of measles is a function of their socioeconomic characteristics, with the lower socioeconomic group tending more to define measles within the supernatural context. The findings indicate the necessity for health education to be based on local culture when promoting vaccination. (AU modified)

554 **Odumosu, M.O.** 1982. *Response of mothers to health education and the incidence of gastro-enteritis among their babies in Ile-Ife, Nigeria.* Social Science and Medicine, 16, 1353-1360 (tables, figs., 10 refs.)

§ Using data collected by pretested questionnaires administered by interviewers, a study of 100 nursing mothers attending welfare clinics was undertaken to evaluate their behavioural response to the educational health talks and demonstrations provided by Ile-Ife (Nigeria) health centres and to investigate the occurrence of diarrheal disease among babies. The following aspects are discussed with the use of six tables: general background of respondents; environment and home facilities; clinic attendance; hygiene observed before breastfeeding and before preparing babies' feed; hygiene observed in protection of food; bottle and utensil sterilization methods and source from which methods were learned; condition of drinking water; and incidence of diarrhea among respondents' babies. It is felt that further reduction in the incidence of gastroenteritis among babies could be achieved by reappraisal of the content of the health education talks and methods of teaching the mothers. (SALUS)

555 **Oduntan, S.O.** 1975. *Social conditions and child health in Africa.* African environment, 1(4), 65-72 (tables, figs., 8 refs.)

§ In the context of high rates of infant and child mortality, the relationship between environmental variables (physical, biological, and social) and patterns of disease and health is examined. Drawing data from various sources, the author concludes that a web of multiple interacting factors involving the economy and cultural practices in the homes, the educational status of the parents, the standard of environmental sanitation, and the degree of utilization of available medical services determines the health of Nigerian children. (AU modified)

556 **Oduntan, S.O.** 1975. *Health of Nigerian children of school age (6-15 years).* World Health Organization, Brazzaville, CG. 120 p. (tables, ill., refs.) WHO/AFR/MCH/68.

§ This study assesses the health of Nigerian schoolchildren in terms of their social, economic, and cultural backgrounds. The first part, or retrospective study, constitutes an analysis of 17,006 health records from school clinics and dispensaries, a general hospital, and a teaching hospital in Ibadan. The second part, or prospective study, involved clinical examination and laboratory and psychometric testing of 1306 children from a variety of backgrounds, an environmental study of 62 primary and secondary schools, and environmental and sociological surveys of the homes of 293 children. Findings revealed a high frequency of disease among all the students examined except for the upper-class children: 34.5% of the urban and 56.6% of the rural schoolchildren had malaria parasitemia, 25% of the urban primary schoolchildren were suffering from vesical schistosomiasis, 61-95.7% of the children were harbouring intestinal parasites, angular stomatitis was diagnosed in 34.7% of the urban and 41.5% of the rural schoolchildren, 30% of the children had skin ulcers, etc. Upper-class children were found to score higher on intelligence tests and to be taller and heavier than their peers. It is concluded that the main determinants of health in these schoolchildren are the economic and educational status of the parents, the cultural practices in the home, and the availability of medical services. A number of immediate and long-term proposals for improving the health of Nigerian children of school age are suggested. (SALUS)

557 **Ofosu-Amaah, S., Kratzer, J.H., Nicholas, D.D.** 1977. *Is poliomyelitis a serious problem in developing countries? Lameness in Ghanaian schools.* British Medical Journal, 1(6067), 1012-1014 (table, fig., 11 refs.)

§ The authors maintain that the incidence of poliomyelitis in tropical countries is underreported. They suggest that the observed increase in poliomyelitis associated with a fall in infant mortality could well be due to an increase in reporting in countries where living standards have improved rather than to a real change in incidence. The evidence comes from a questionnaire sent to a sample of all schools in Ghana asking about lameness. The incidence was 7.8 per 1000 schoolchildren and was slightly higher in rural areas. This could be due to greater use of vaccine in urban areas. Statistical data are included. (SALUS)

558 **Ofosu-Amaah, S.** 1983. *The control of measles in tropical Africa: a review of past and present efforts.* Reviews of Infectious Diseases, 5(3), 546-553 (tables, 54 refs.) ISSN 0162-0886

§ Measles in tropical Africa is endemic and cyclical, with a high incidence that usually peaks during the dry season. Measles may be a contributing factor in 10% of all deaths among African children. Several problems have hindered measles immunization programs in Africa. These include difficulties in maintaining the cold chain, poor epidemiologic surveillance, and the logistical problems involved in reaching a population that is 80% rural. The United States Agency for International Development and the World Health Organization both have programs that are helping to increase immunization coverage and to solve the problems just mentioned. Many countries have begun to train their own personnel to administer immunization programs. However, because of limited staff and equipment, a high birthrate, and an uncertain social situation, no firm predictions can be made concerning the permanent control of measles in tropical Africa. (AU)

559 **Ofosu-Amaah, S.** 1983. *Causes of perinatal deaths and prevention in the context of primary health care in Ghana.* In del Mundo, F., Ines-Cuyegkeng, E., Aviado, D.M., Primary maternal and neonatal health: a global concern. Proceedings of the First international congress on maternal and neonatal health, Manila, PH, 2-7 Nov. 1981. Plenum Press, New York, US. pp. 441-446 (9 refs.) 0-306-41179-2

§ With reference to changes made in improving neonatal care at the primary health care level in the Danfa area of Ghana, the author examines options for decreasing the number of perinatal deaths in rural areas. Emphasis in the discussion is placed on the role of traditional birth attendants. (F.M.)

560 **Ogbeide, O.** 1980. *Infant mortality in Benin City.* Journal of Tropical

Pediatrics, 26(5), 199-202 (tables, 7 refs.)

§ In a prospective study of infant mortality, 407 out of 2038 infants born at the Specialist Hospital, Benin, Nigeria, and 151 out of 755 infants born at the University of Benin Teaching Hospital were systematically selected and followed-up for 1 year. The former experienced an infant mortality of 71.25 per 1000 live births and the latter, 33.11 per 1000, giving an overall infant mortality of 60.9 per 1000. (This has been erroneously reported as 43 per 1000 in the paper.) Leading causes of death were intestinal disorders, measles, pneumonia, fever, and prematurity. This paper discusses the study findings, comparing the two groups with respect to quality of care received, education level of mothers, ratio of neonatal to postnatal deaths, etc. (SALUS)

561 **Ogbeide, O., Osuhor, P.C.** 1984. *Morbidity and mortality patterns among malnourished children in Benin City, Nigeria.* Tropical Doctor, 14(4), 178-183 (tables, 12 refs.) ISSN 0049-4755

§ Among 196 malnourished children attending a nutrition unit in Benin City, Nigeria, a morbidity survey was conducted from January 1971 to December 1973 and a mortality survey was conducted from October 1974-March 1975. The results are discussed and presented. Gastrointestinal disorders (39.3%) and measles (34.2%) predominated in both morbidity and mortality patterns. In all, 30 (15.3%) of these children died, and kwashiorkor contributed 14 (46.7%) of this total. The age of the majority of the sick and dead children was 1-2 years, which is within the traditional weaning age of Nigerian children. Immunization of children and their mothers at appropriate times, coupled with sound nutrition and health education to their mothers, will go a long way toward ensuring the good health and welfare of our children. (AU modified)

562 **Ogilvy, S.M.** 1981. *Food habits of the Dinka in the Jonglei area of Sudan - a preliminary study.* Journal of Human Nutrition, 35, 296-301 (map, 4 refs.) ISSN 0308-4329

§ The author presents the findings from a preliminary nutrition study carried out in a sample of 20 households in a dry season cattle camp of the Dinka. Life in the cattle camp, food habits, seasonal dietary patterns, and general health and nutritional status are discussed. The conclusion reached is that, although in general the diet is adequate, in "bad" years, or seasonally, the diet is likely to be deficient in total energy. A combination of factors, including infectious diseases, malaria, malnutrition, and poor sanitation is considered to contribute to high infant and child mortality. (F.M.)

563 **Ogunmekan, D.A., Harry, T.O.** 1981. *Optimal age for vaccinating Nigerian children against measles. II. Seroconversion to measles vaccine in different age groups.* Tropical and Geographical Medicine, 33(4), 379-382 (table, fig., 18 refs.)

§ Ninety-eight children, 5-9 months old, were given measles vaccine. Blood samples were taken before and again 6-8 weeks after immunization and tested for hemagglutination inhibition antibodies to measles virus. It was found that the seroconversion rate was significantly lower ($p < 0.05$) in infants under 7 months than over this age. The results suggest that although some immunized at 6 months of age show seroconversion, the proportion is too small to justify extensive immunization at this age. It is proposed that children in Lagos should be immunized from the age of 8-9 months. (AU)

564 **Ohadike, P.O.** 1983. *Evolving indications of mortality differentials by sex in Africa.* In Lopez, Alan D., Ruzicka, Lado T., Sex differentials in mortality: trends, determinants and consequences. Miscellaneous series no. 4, Selection of the papers presented at the ANU/UN/WHO meeting, Canberra, AU, 1-7 Dec. 1981. Department of Demography, Australian National University, Canberra, AU. pp. 33-52 (tables, 23 refs.)

§ Within the limitations of available data, the analysis demonstrates the probable extent of sex differentials in mortality. An attempt is made to indicate possible directions of change through a study of indications of how sex-specific death rates have been evolving in the past for countries with a reasonably reliable data base. An explanation of the probable reasons for the observed patterns of variations according to sex have occurred is given. The author concludes that the indications of sex mortality differentials are heavily dependent on the extent to which sex-determined differential recall bias in reporting male and female deaths operated in the respective country situations. From the literature, such biases could be culturally based and could operate in such a way as to offer preferential care to children of one sex or the other. It could also affect the level of recall of deaths of children of the preferred sex, especially if this occurred early in life. (AU modified)

565 Ohuche, R.O., Otaala, B. 1981. *The African child and his environment.* United Nations Environment Programme series, vol. 3, Pergamon Press, Oxford, GB. 97 p. (tables, ill., 197 refs.) ISBN 0-08-025671-6

§ The monograph is the result of a survey in 13 African countries commissioned by the United Nations Environment Programme and the Science Education Programme for Africa to assess services available to children. Chapters in the book concern: the physical and health environments; the social environment; educational services; extracurricular services, including apprenticeship and training programs, youth clubs, and recreational services; child development (psychomotor, affective, intellectual development); and in the final chapter, prospects, observations, and recommendations are discussed with a view toward country-specific policy development. (F.M.)

566 Ojo, D.A., Ladipo, O.A., Adelowo, M.A. 1981. *Maternity care monitoring in Ibadan.* African Journal of Medical Sciences, 10, 49-56 (tables, 6 refs.) Fr ISSN 0309-3913

§ The purpose of this prospective study was to gain an accurate picture of maternal and perinatal mortality to establish a base for more effective health care delivery. Data were collected from 993 women who gave birth at a hospital in Ibadan in 1977. Findings indicated that there were significant differences in terms of favourable or unfavourable birth outcome according to sociodemographic characteristics of the patients, antenatal care, and labour or delivery complications. (F.M.)

567 Ojofeitimi, E.O., Teniola, S.O. 1980. *Evaluation of nutrition rehabilitation centre in Ile-Ife, Oyo State, Nigeria.* World Review of Nutrition and Dietetics, 35, 87-95 (tables, 22 refs.)

§ To evaluate the Nutrition Rehabilitation Centre (NRC) at Ile-Ife, Nigeria, a number of studies were carried out using 30 randomly selected children aged 9 months to 4 years who were attending the centre. These studies focused on the organization of the NRC, the children's anthropometric measurements, their mothers' beliefs about the causes of protein-energy malnutrition (PEM), taboos about food, infections found in association with PEM, home visits, and relapses and mortality. The results of the evaluation are discussed and statistical data are included. (SALUS)

568 Ojofeitimi, E.O. 1982. *Causes of protein energy malnutrition as viewed by the clients' mothers.* Journal of Tropical Pediatrics, 28(3), 147-148 (tables, 8 refs.) ISSN 0300-9920

§ This paper describes what 28 mothers of malnourished children considered to be the causitive factors of protein-energy malnutrition. The disease was called "no hoe" by 64.3% of the mothers in their dialects; 25% called it "big head". It was thought to be caused by the child having the supernatural power to die and be reborn by 53.6% of the participants, and 21.4% were of the opinion that the disease was communicable. Ironically, none of the mothers associated inadequacy of food with the disease. To help in minimizing the number of children suffering from protein-energy malnutrition in developing countries, health workers need to understand beliefs, attitudes, and methods of treating the disease from the clients' ways of thinking and acting. (AU modified)

569 Ojofeitimi, E.O., Adelekan, M.O. 1984. *Partnership with fathers in combating malnutrition: their views as to causes and treatment of protein energy malnutrition.* Child: care, health and development, 10(2), 61-66 (tables, 9 refs.)

§ Fathers of children suffering from overt protein-energy malnutrition (PEM) attending a Nutrition Rehabilitation Clinic in Ile-Ife, Nigeria, were visited at their homes to enquire, by means of interview, about their perceptions of the local names given to PEM, its causes, and treatment. From the 56 homes visited, 23 fathers were met and participated in the study. Approximately 44% recognized PEM as a cause of childhood disease. About 35% of the respondents attributed the cause of PEM to childhood infection and 26% attributed it to congenital disease transferred from pregnant mothers. One-sixth of the fathers were able to link PEM to lack of good feeding. Hospital-based treatment was advocated by 70% of the fathers, while 13% opted for traditional medicine and 17% opted for modern medicine. About 35% of the fathers were of the view that child welfare should be mainly the responsibility of the mother. Prolonged absence of fathers from the home and poor sanitation were found to be among the important etiological factors of PEM. Strategies for prevention of PEM through active involvement by the fathers, and the vital role of home visits are discussed. (AU)

570 **Okeahialam, T.C.** 1980. *Childhood tuberculosis in Enugu.* Nigerian Journal of Paediatrics, 7(1), 1-6 (tables, ill., 16 refs.)

§ In a study of 347 children with tuberculosis seen at the University of Nigeria Teaching Hospital, Enugu, 71.7% were found to have severe pulmonary lesions, particularly in the younger age group. Primary lung complex occurred in only 47 children (15%). Extrapulmonary lesions diagnosed included lymphadenitis, meningitis, chronic otitis media, and Pott's disease. No case of abdominal tuberculosis was found. Lack of immunization, late diagnosis and treatment, and poor socioeconomic status of the families concerned appeared to be important factors responsible for these severe forms of childhood tuberculosis. By the end of the first year of followup, there was a default rate of 40% among patients on domiciliary treatment. (SALUS)

571 **Okorafor, A.E.** 1979. *Mortality differentials in Africa.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov. - 1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 422-440 (tables, 16 refs.)

§ In the first part of the paper the author discusses mortality differentials in Nigeria on the basis of the limited and defective data available from sample surveys (including clinical sources), civil registration, and censuses. It is concluded that, although it is impossible to give a definitive picture of mortality in Nigeria, mortality, particularly infant mortality is higher in the north than in the south; mortality is higher in rural than urban areas. In the second section of the paper, recommendations are made for improving demographic data collection. These include depoliticizing the issue of data collection and the creation of a permanent National Census Board with a mandate to set up an adequate and appropriate civil registration system. (F.M.)

572 **Okouoyo, E.** 1981. *La mortalité infantile globale à l'Hôpital Pédiatrique d'Owendo de 1977 à 1980.* Courrier, 31(4), 367-369 (8 réf.)

§ Une analyse des 508 décès survenus à l'hôpital universitaire (pédiatrie) de Libreville, au Gabon, entre janvier 1977 et novembre 1980, révèle ce qui suit : 35,8 % de ces décès touchaient des nouveau-nés, 34 % des nourrissons âgés de 1 à 12 mois, 15,35 % des enfants âgés de 1 à 5 ans, et 4,52 % des enfants âgés de plus de 5 ans. Principales causes de décès : les maladies infectieuses. Chez les nouveau-nés, l'accouchement prématuré est responsable d'un taux élevé de mortalité. Ce document donne une ventilation plus poussée des données; l'auteur examine les résultats de l'étude en les comparant aux données provenant d'autres hôpitaux africains et indique leurs répercussions en ce qui touche la santé publique. (SALUS traduit)

573 **Okoye, C.S.** 1980. *Mortality levels and differentials in Sierra Leone: an analysis of the mortality data from the 1974 population census.* Census analysis, vol. 2, Central Statistics Office, Freetown, SL. 74 p. (tables, figs., 30 refs.)

§ Mortality data from the 1974 population census are analyzed with respect to the estimation of infant and child mortality and adult mortality, in terms of mortality differentials (regional, age and sex, rural-urban), and according to maternal education level. In the conclusion, past trends and future prospects of mortality are considered. (F.M.)

574 **Okubagzl, G.S.** 1978. *Effect of health centre services on the health status of a community in Gondar region, Ethiopia.* Ethiopian Medical Journal (Addis Ababa), 16(3), 99-104 (tables, map, 8 refs.)

§ About 20 years after the launching of health centre services in Gondar region, Ethiopia, communities in served and unserved areas were compared with respect to seven indicators: source of drinking water, availability of latrines, vaccination status, knowledge and practice of basic hygiene, trachoma and skin infections, and weight of children. No significant differences between served and unserved communities could be ascertained and it was concluded that, as long as health centres continue to direct most of their efforts toward curative medicine, this will continue to be the case. (SALUS)

575 **Olusanya, P.O.** *Evidence for the variation and decline of mortality in Nigeria.* In

Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications. Monrovia, LR, 26 Nov.-1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 394-421 (tables, 27 refs.) ST/ECA/SER.A/1

§ On the basis of small-scale surveys and indirect estimating procedures rather than data collected as part of a country-wide vital registration system, the author discusses regional mortality differentials, urban-rural differentials, and the effect of literacy on mortality in Nigeria. Findings indicate that: the southwest has the lowest mortality level, followed by the east, and last, the north; although the pattern is not universal, urban areas generally have lower mortality rates than rural areas largely owing to the concentration of medical facilities in the former areas; maternal education is significantly related to child mortality; on the basis of limited data, there is some evidence of a decline in mortality in the period 1930-70. (F.M.)

576 **Omanga, U., Mafama, N., Valliante, K., Mashako, M.** 1981. *Aspects épidémiologiques et étiologiques des gastro-enterites aigues de l'enfant à Kinshasa.* Médecine Tropicale, 41(6), 619-624 (tables, fig., 24 réf.) En ISSN 0025-682X

§ Entre 1972 et 1974 une étude rétrospective de 930 enfants hospitalisés pour gastro-entérite aigue à Kinshasa a été faite. L'étude indique que 92 % des enfants avaient moins de 3 ans et que 91 % d'entre eux étaient sous-alimentés. La rougeole et la malnutrition semblent avoir été les facteurs causaux de la mort de 8 % des enfants examinés. (F.M. traduit)

577 **Omene, J.A., Diejomaoh, F.M.** 1977. *Factors influencing perinatal mortality in a Nigerian community.* East African Medical Journal, 54(4), 202-206 (tables, 17 refs.)

§ Among 1310 deliveries during 1974-75 at the University of Benin Teaching Hospital, 106 consecutive perinatal deaths were reviewed. This is an overall perinatal mortality of 80.9 per 1000 deliveries. The obstetric causes of fetal deaths were antepartum hemorrhage, cephalopelvic disproportion, malpresentations, twin pregnancies, and congenital abnormalities; asphyxia was the major cause of neonatal deaths. Factors responsible for the significant fetal and perinatal mortality during the last 6 months were discussed. (AU)

578 **Omideyi, A.K.** 1985. *Behavioural factors and infant mortality trends in Nigeria.* Presented at national conference on human behaviour and the challenges of national development in Nigeria. Ile-Ife, NG, 15-19 April 1985. 32 p. (tables, 47 refs.)

§ The objective of the research is to examine infant mortality trends in Nigeria as a response to high fertility levels and social and economic factors. The author focuses on behaviour relating to health, nutrition, and environmental sanitation as well as socioeconomic factors such as level of education, income occupation, type of marriage, and age of marriage. She argues that the decrease in infant mortality is slow because fertility levels remain high and certain behavioural factors and environmental sanitation have not improved significantly with time. Data from the Nigerian Fertility Survey (1981-82) and from research in Nigeria are used to support her argument. (F.M.)

579 **Ominde, S.H., Henin, R.A., Sly, D.F.** 1984. *Population and development in Kenya.* Heinemann Educational Books, Nairobi, KE. 129 p. (tables, figs., maps, refs.) ISBN 0-435-95761-9

§ The purpose of this book is to focus on the relationship between demographic characteristics and socioeconomic development in Kenya. Topics include: a geographical framework of the land and its resources; land use; demographic trends and their implication for economic and social development; population distribution and urbanization; migration patterns; population projections; and modern economic-sector development and population change. (F.M.)

580 **Omolulu, A.** 1975. *Enfant et la nutrition en Afrique.* Conférences biomédicales, cycle 1970-73 - Cahiers techniques AFRO, 11, 63-74 (14 réf.)

§ Ce document examine les diverses menaces pour la santé et la survie des enfants en Afrique : trop faible poids à la naissance, sous-alimentation chronique, parasitisme intestinal, etc. Il propose ensuite pour améliorer la situation un modèle en triangle dont les trois côtés sont la santé (y compris les services de santé primaires, l'assainissement de l'environnement et la lutte l'assainissement de l'environnement et la lutte contre les maladies infectieuses), l'éducation sanitaire et le développement socio-économique (surtout l'agriculture). (SALUS)

581 **Omolulu, A.** 1982. *Breast-feeding practice and breast milk intake in rural Nigeria.* Human Nutrition: Applied Nutrition, 36A(6), 445-451 (tables, figs., 6 refs.) ISSN 0308-4329

§ A cross-sectional study of breastfeeding practice among rural Nigerian mothers and their babies is reported. At 1, 14, 30, 60, and 90 days after birth 56, 17, 45, 31, and 16 mother-baby pairs were studied. Of the babies, 95% had sips of water immediately after birth; only three were offered the breast at this time. Breastfeeding was begun in the others 2-25 hours after birth. At 14, 30, 60, and 90 days respectively, mean breast milk intakes were 252.9 ± 88, 393 ± 199, 341 ± 156, and 350 ± 181 g. Intake was related to the number of breastfeeds given by the mothers. Reports of breast milk intake of babies should also record child rearing practices as these could affect breast milk consumption. (AU)

582 **Omondi, O., Voorhoeve, A.M., van Ginneken, J.K.** 1984. *Age-specific infant and childhood mortality and causes of death.* In van Ginneken, J.K., Muller, A.S., Maternal and child health in rural Kenya: an epidemiological study. Croom Helm, London, GB. pp. 213-222 (tables, 6 refs.) ISBN 0-7099-2608-1

§ This research, carried out as part of the Machakos Project Study, was designed to analyze neonatal and postneonatal mortality rates with respect to age, geographical environment, seasonal variation, and cause. Age was considered the most significant demographic variable. The findings of the study indicated: the overall death rate for the age group 1-4 years was 7.0 per 1000, with males experiencing a higher rate than females particularly in the immediate neonatal period; 47% of infant mortality was neonatal, the overall infant mortality rate being 49.1 per 1000; mortality tended to be higher in the less prosperous east than in the west. This was the case particularly with respect to the postneonatal period; mortality data did not vary by season; birth injuries and prematurity were the main causes of death in the first 2 days of life. In the postneonatal period, diarrhea and pneumonia were the leading causes of death. For the age group 1-4 years, measles and malnutrition were the main causes of mortality. In conclusion the authors state that the generally low rate of infant and child mortality results from a combination of factors, such as favourable environmental conditions, average birth weight, and the relative accessibility of medical facilities. (F.M.)

583 **Onadeko, M.O.** 1980. *Nutritional status of pre-school children in a rural community.* Nigerian Journal of Paediatrics, 7(2), 33-38 (tables, figs., 28 refs.)

§ A survey of 120 rural, Nigerian, preschool children, in a rural town in Oyo State, revealed that their nutritional status was markedly below that of the elite and significantly below that of urban preschoolers from similar backgrounds, a situation due mainly to poor environmental sanitation and underutilization of health services and available food. It is suggested that any nutrition program in rural communities should include education on health and food production. (SALUS modified)

584 **ONU (Organisation des nations unies), Département des affaires économiques et sociales internationales,** 1983. *Niveaux et tendances de la mortalité depuis 1950.* Organisation des nations unies, New York, US. 203 p. (tables, fig., réf.) ST/ESA/SER.A/74

§ La discussion des niveaux et tendances de la mortalité est basée selon les quatre grandes régions : les pays développés; Afrique; Asie; Amérique latine. Concernant l'Afrique sub-saharienne on discute : mortalité juvénile; taux de mortalité infantile et espérance de vie à la naissance; mortalité par âge et par sex; taux différentiels de mortalité : selon le lieu, l'ethnie et la religion; et en fonctions de facteurs socio-économique; et morbidité et causes de décès. (AU modifié)

585 **ONU (Organisation des nations unies), Département des affaires économiques et sociales internationales,** 1984. *Tables types de mortalité pour les pays en développement.* Etudes démographiques no. 77, Organisation des nations unies, New York , US. 351 p. (tables, fig., réf.) ST/ESA/SER.A/77

§ La présente étude fournit de nouvelles séries de schémas de mortalité selon l'âge et le sexe, qui sont fondés sur des données solidement documentées recueillies dans les pays en développement et se prêtent donc mieux à l'analyse démographique (à l'exception de l'Afrique au sud du Sahara) et se prêtent donc mieux à l'analyse démographique dans les régions en développement. Les chapitres décrivent les sources de données, les méthodes de construction des nouvelles tables, les structures par âge proprement dites et les usâges auxquels elles se prêtent. Les cinq annexes présentent : les tables types de mortalité; la mortalité par année d'âge jusqu'à l'âge de 5 ans, qui est utile lorsqu'on veut recourir à des procédures analogues à celles de Brass pour estimer la mortalité des jeunes enfants; les taux de survie quinquennaux et décennaux, et la description des méthodes de traitement des données de base. (AU modifié)

586 Onubogu, U.V. 1978. *Intestinal parasites of school children in urban and rural areas of eastern Nigeria.* Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, 242(1), 121-131 (tables, figs., map, 5 refs.) De

§ A survey of intestinal parasitism in urban and rural schoolchildren in the Anambra and Imo states of Nigeria was undertaken from October 1975 to March 1976. Of 1742 children screened for helminths and 1699 examined for protozoan infections, 81% and 55% were found to carry one or more species, respectively. Helminth infections, especially hookworm, were higher in rural children, while protozoan infections were higher in urban children. Further analysis of the survey findings are presented in this paper and food hawking is pointed out as an outstanding factor in promoting infections and reinfections, especially in urban children. Statistical data are included. (SALUS)

587 Onyia, D.N., Sanda, O. 1981. *Mobile under-fives clinic in Ekpoma, Nigeria.* Tropical Doctor, 11(3), 128-131 (tables, 5 refs.)

§ The activities of mobile under-fives clinics in Ekpoma, Bendel State, Nigeria, from October 1979 to March 1980 are evaluated and the results discussed and presented as statistical data. They indicate that most diseases could be prevented through health education, immunization, malarial chemoprophylaxis, and regular monitoring of weight. Mobile clinics could fill this need in rural areas where fixed clinic facilities are absent or inadequate. Other suggestions and recommendations, including the deployment and training of auxiliary health workers to carry out routine consultations and treatment, are presented. (SALUS).

588 Oomen, H.A., Jansen, A.A., T'Mannetje, W. 1979. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya; XIV: growth pattern of rural Akamba pre-school children.* Tropical and Geographical Medicine, 31(3), 421-439 (tables, figs., ill., 22 refs.)

§ This paper presents weight and height data collected on 568 children aged 0-5 years in rural Kenya. During the first 6 months, growth closely follows the Harvard standards, but this is succeeded by a sharp drop that persists until the sixth year. About 75% of babies aged 1-6 months are above the weight-for-height standard. This decreases to 54% after 6 months and continues to decrease to about 30% by the age of 5. The authors conclude that a child whose weight is 70% of the standard should be considered at risk. This covers about 3% of the children aged less than 1 year in this area and 5-6% of those aged 1-5 years. Statistical data are included. (SALUS)

589 Oppong, C., Abu, K. 1984. *The seven roles framework: focused biographies and family size: a Ghanaian study.* Paper presented at the IUSSP seminar on micro-approaches to demographic research, Canberra, AU, 3-7 Sept. 1984. Australian National University, Canberra, AU. 19 p. (tables, 62 refs.)

§ This paper addresses a common conceptual and methodological problem encountered in demographic studies: how changes in the roles of women may be indexed, documented, and linked to lowering of numbers of births desired and contraceptive innovation. A framework for data collection and analysis is presented and one microtechnique, the focused biography, is described. The remainder of the paper examines some of the empirical evidence from a Ghanaian study using this framework and technique demonstrating how changes or differences in aspects of women's roles appear to be associated with new family size desires and associated practices. The discussion centres upon child care and child birth and the ways in which shifts away from traditional values and practices are linked to changing maternal norms, values, and beliefs, as well as changes in other roles. The discussion thus addresses two sets of hypotheses: one which attempts to link increasing expenditure of time and money on children and desires for "higher quality" offspring with smaller family size desires and adoption of more effective birth control; and the other set which tries to associate the latter changes with conflicts of time and interest between occupational, community, and individual roles and motherhood. (AU)

590 **Orubuloye, I.O., Caldwell, J.C.** 1975. *The impact of public health services on mortality: a study of mortality differentials in a rural area of Nigeria.* Population Studies, 29(2), 259-272 (tables, 20 refs.) ISSN 0032-4728

§ The purpose of this study, based on two villages in the Ekiti Division of Western State, is to assess the impact of public health services on mortality. The communities were chosen on the basis of their similarity in terms of socioeconomic structure, culture, and environment, but their differential access to medical facilities. One village had a rural hospital, doctor, and health workers; the other lacked any medical facility. Analysis is based on data collected in a retrospective questionnaire from 600 respondents, 58% of whom were female. Findings indicate significant improvements in health in the village with medical facilities and the notion that mortality reduction has resulted largely from the introduction of medical science is supported. Further, it is noted that this effect is greatest in populations with immediate access to facilities. In both villages, differentials in child survival were related strongly to levels of maternal education. Policy implications are drawn. (F.M)

591 **Orubuloye, I.O.** 1980. *The significance of breast-feeding on fertility and mortality in Africa.* In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR , 26 Nov.-1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET . pp. 499-512 (tables, 27 refs.) ST/ECA/SER.A/1

§ The author reviews the available demographic literature on breastfeeding and postpartum abstinence in Africa and then, in more detail, analyzes the patterns of breastfeeding and abstinence and their impacts on fertility for the Yoruba of Nigeria. The conclusion reached is that lactation undoubtedly enhances the chances of infant and child survival in Africa. It also acts as a constraint on fertility by prolonging postpartum amenorrhea, but the magnitude of the effect of breastfeeding on fertility is difficult to establish. This is because the contraceptive effect is known to be incomplete and to diminish rapidly with time. (AU modified)

592 **Orwell, S., Clayton, D., Dugdale, A.E.** 1984. *Infant feeding in Nigeria.* Ecology of Food and Nutrition, 15(2), 129-141 (tables, figs., 12 refs.) ISSN 0367-0244

§ A study by questionnaire of 1845 urban and 349 rural mothers in all regions of Nigeria is reported; 99% commenced breastfeeding their infants. In urban areas, most continued for at least 6 months and in rural areas for at least 12 months. In urban areas, 77% of the infants were given infant formula by the age of 3 months; in rural areas 40% were given infant formulae. Cereals were also introduced early to many children. Many mothers seemed to use inadequate methods for preparing infant formulae. The reasons for and the effects of this pattern of infant feeding are not clear, but it presumably meets the overall needs of the population. (The study was sponsored by Nestle SA.) (AU abbrev.)

593 **Ostrowski, Z.L., Heidrecheid, N.** 1982. *Some aspects of nutritional status in the south of the Sudan (preliminary study).* Journal of Tropical Pediatrics, 28(3), 153-158 (figs., 7 refs.) ISSN 0142-6338

§ The purpose of this study was to evaluate the potential of a methodology developed in Europe for the measurement of the nutritional status of children under 5 years of age and pregnant women. A sample of 183 participants from nine villages was surveyed in the preliminary study. Individual interviews, anthropometric measurements, clinical examinations, and a survey of dietary intake provided the basis for analysis. Findings indicated a high degree of anemia in the population and a daily caloric intake lower than that recommended. (F.M.)

594 **Ostrowski, Z.L., Ojaba, E., Semichon, B., Armengaud, A.** 1983. *Epidemiological surveys in some villages in the Jonglei canal area.* In Nutritionand development: proceedings of the First international round table conference on nutritional status of pregnant women in

the Sudan, Paris, FR, 29 Sept.-1 Oct. 1982. European Association for Studies on Nutrition and Child Development, Paris, FR. pp. 153-158 (tables)

§ The results of an epidemiological survey carried out in six villages near Sobat River revealed a mean infant mortality rate of 41%. Differences in mortality rates between villages was explained by the authors in terms of proximity to a health centre and possession of cattle (an indicator of wealth) or consumption of fish. (F.M.)

595 **Osuhor, P.C.** 1978. *Stillbirths in a savannah district of northern Nigeria.* Medical Journal of Zambia, 12(1), 18-22 (tables, figs., 10 refs.)

§ Analysis of the records of 1648 hospital deliveries in the Ahmadu Bello University Rural Teaching Hospital, Malumfashi, Nigeria, from January 1971 to December 1974 revealed a stillbirth rate of 95 per 1000 total births, about five times the rate in Western countries. Apart from the obstetric factors, which were not considered in this paper, underutilization of the existing facilities, the poor local transport system, the low socioeconomic status, and the sociocultural practices of the population were found to be the obvious contributory factors. Unless measures are taken to raise the socioeconomic status of this population, the stillbirth and perinatal death rates will not be significantly reduced in the near future. Statistical data are included. (SALUS)

596 **Osuhor, P.C.** 1980. *Weaning practices amongst the Hausas.* Journal of Human Nutrition, 34(4), 273-280 (tables, 21 refs.) ISSN 0308 4329

§ A 1975 survey of 238 Hausa children in Nigeria indicated that children are on average weaned at 12-18 months of age despite Islamic teaching that weaning should occur at 22-24 months. Reasons for early weaning include: another pregnancy, husbands' unwillingness to follow custom that prohibits intercourse while wives are breastfeeding, judgment that the child is able to feed well on solid adult food, and ill health or death of the mother. Supplementary carbohydrate foods, such as thin corn or millet gruel, are introduced between 5 and 9 months. Supplementary and weaning foods are deficient in energy, protein, and other nutrients, and thus contribute to the occurrence of protein-energy malnutrition during weaning. Suggestions are made for dietary improvements. (AGRICOLA modified)

597 **Osuhor, P.C., Etta, K.M.** 1980. *Morbidity patterns amongst children in a semi-urban community in northern Nigeria.* Journal of Tropical Pediatrics, 26(3), 99-103 (tables, figs., 8 refs.)

§ Results of an anthropometric survey, carried out on 399 Nigerian children aged less than 5 years from September to October 1975, are discussed and presented as statistical data. They revealed that the commonest health problems were respiratory diseases (25.1%), malnutrition (21.1%), and gastroenteritis (15%). Immunization and health and nutrition education are recommended as short-term solutions, although continuing government efforts in the areas of housing, education, nutrition, and environmental health are needed. (SALUS)

598 **Osuhor, P.C., Ogbeide, O.** 1982. *Some socioeconomic factors of malnutrition in Benin City, Nigeria.* Public Health, 96(5), 288-291 (tables, 11 refs.) ISSN 0033-3506

§ This paper describes a study of the socioeconomic status of families of 570 protein-energy malnourished (PEM) babies who attended the Nutrition Unit of the Ministry of Health in Benin City, Nigeria, in 1971-73. The results showed that PEM was highly associated with poor education, poor environment, and poor income. A high percentage of the babies came from unstable and dysmorphic families, living in known slum areas of Benin City. Emphasis should therefore be laid on various measures to raise socioeconomic status of the population, e.g., through basic education, better nutritional programs, and family spacing and planning education. (AU)

599 **Ouaidou, N.** 1986. *La couverture de l'EMIS Bobo-Dioulasso.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 189-206 (tables, fig., carte) IDRC-MR125f, INSAH no. 5

§ C'était pour avoir une idée de la proportion des femmes omises dans l'enquête sur la mortalité infantile et juvénile que l'auteur avait eu à réaliser une enquête de couverture dans un petit quartier de Bobo-Dioulasso. Aussi il avait comparé les registres des maternités de l'hopital central et Guimbi avec les données de l'EMIS. Le présent document se propose d'exposer les résultats de ces deux sources. (AU modifié)

600 **Owen, J.S.** 1985. *The contribution of Primary Health Care to urban health in Africa.* Paper presented at the South/south conference, a joint meeting of the Canadian Association of Latin American and Caribbean Studies and the Canadian Association of African Studies, Montreal, CA, 15-17 May 1985. 16 p. (tables, fig., refs.)

§ After discussing in a general way the health status of urban populations in Africa, and drawing particular attention to infant and child morbidity and mortality, the author examines ways in which urban health could be improved. Recommendations are made with reference to a primary health care program. (F.M.)

601 **Owor, R., Ongom, V.L., Kirya, B.G.** 1975. *The child in the African environment: growth, development and survival.* Proceedings of the 1979 annual scientific conference of the East African Medical Research Council, Kampala, UG, 1974. East African Literature Bureau, Nairobi, KE. 455 p. (tables, figs., refs.)

§ Papers presented at this conference addressed protein-energy malnutrition in children and its relationship to mortality and to infectious diseases; the growth and development of children in different physical, cultural, and socioeconomic environments; clinical and laboratory studies on infectious diseases and nutritional deficiencies; and the delivery of health care services, particularly primary health care. (F.M.)

602 **Owusu, J.Y.** 1984. *Evaluation of the Ghana Fertility Survey 1979-80.* World Fertility Survey scientific reports no. 69, International Statistical Institute, Voorburgh, NL. 44 p. (tables, figs., 5 refs.)

§ The author's objective is to assess the quality of the data from the Ghana Fertility Survey (GFS) and to ascertain the plausibility of the main findings of the survey. The quality of age reporting, and of data relating to nuptiality, fertility, and infant and child mortality are examined. With respect to infant and child mortality, the levels obtained from the GFS generally appear to be low when compared with indirect estimates based on population census data on number of children ever born and the proportion surviving. The data, however, do not show any strong evidence of selective or differential omissions of deceased children, and there is no evidence of more omissions of deaths in the more distant past. Differential levels of infant and child mortality by sex of child and age of mother at birth also showed the expected patterns. (AU modified)

603 **Oyedeji, G.A.** 1984. *School age pregnancies in western Nigeria: parents and products.* Annals of Tropical Paediatrics, 4, 31-35 (tables, 11 refs.) ISSN 0272-4936

§ Over 3 months, 33 babies and their mothers, all school girls, were identified out of a total of 576 admissions to the pediatric unit of the Wesley Guild Hospital, Ilesa, Nigeria. Twenty (60.0%) of the babies were newborn, nine (45%) of whom were premature. Among the 13 children aged over 1 month, protein-energy malnutrition, gastroenteritis, and pneumonia were the commonest reasons for admission. The number of premature neonates and of malnourished older children born to young mothers were significantly higher than those of similar admissions born to older mothers ($p < 0.001$, in both cases). Thirty-two (97%) mothers were unmarried teenagers and, although significant numbers of them were poorly adjusted to the demands of motherhood, varying numbers of the fathers were young, unemployed, in school, and negative in their attitude to the pregnancies and their products. Suggestions are offered for meeting the challenges posed by school-age pregnancy and parenthood in a developing country. (AU modified)

604 **Oyediran, M.A.** 1981. *Maternal and child health and family planning in Nigeria.* Public Health, 95(6), 344-346 (9 refs.) ISSN 0033-3506

§ With respect to the provision, management, and utilization of maternal and child health services, research has identified problem areas such as the delays which occur in seeking medical care for the ill child and the difficulties experienced in increasing family planning acceptance in rural areas where the infant mortality rate is still high. Acceptance of family planning services appears greater in urban areas and may be related to the easier availability of health services for both mothers and children. The development of the Basic Health Services Scheme by the federal government of Nigeria should provide solutions to these problems by the provision of comprehensive care at the rural level, provided it is possible to coordinate these activities at the state and local government levels. (AU modified)

605 **Oyemade, A., Olugbile, A., Janes, M.D.** 1981. *Health of Nigerian rural school children.* Journal of Tropical Pediatrics, 27(2), 101-105 (tables, figs., 13 refs.)

§ A survey of 353 schoolchildren aged 6-14 years in Badeku, Nigeria, revealed that: most were short and underweight; 26.9% had dental caries; the splenic rate was surprisingly low, probably due to malaria prophylaxis; 25% had not been immunized against smallpox and tuberculosis; and 28.9% suffered from angular stomatitis, 6.8% from scabies, and 13.6% from tinea capitis. Suggestions are made for improving school health care. Statistical data are included. (SALUS)

606 **Page, H.J., Lesthaeghe, R.** 1981. *Child-spacing in tropical Africa: traditions and change.* Academic Press, London, GB. 332 p. (tables, maps, figs., refs.) ISBN 0-12-543620-3

§ This book focuses on the analysis of societal arrangements in African cultures that relate to fertility (e.g., ensuring long birth intervals through the practice of prolonged breastfeeding and postpartum abstinence) and to the changes that are occurring with modernization. The first section of the book concerns the role of child spacing in society; the second examines case studies drawn from Nigeria, Ghana, Togo, Senegal, and Zaire; and, in the final section, policy implications are drawn. (F.M.)

607 **Page, H.J.** 1983. *Fertility and family: new currents and emerging emphases in research and policy.* Working paper no. 1983-8, Interuniversity Programme in Demography, Brussels, BE. 21 p.

§ This paper represents an overview of the U.N. Expert Group Meeting on Fertility and Family (New Delhi, 1983), preparatory to the International Conference on Population. It draws on papers presented and discussions to draw attention to major issues and trends. After a brief review of the changes in the situational context since the Bucharest Conference of 1974, the author discusses advances in knowledge of fertility levels and trends; and progress in analysis of the relationships between development, fertility and family. In particular, attention is drawn to women's status. Policy formulation and implementation are also discussed. (F.M.)

608 **Palloni, A.** 1984. *Design problems and data collection strategies in studies of mortality differentials: developing countries.* In Vallin, J., Pollard, J.H., Heligman, L., Methodologies for the collection and analysis of mortality data. Proceedings of a seminar, Dakar, SE. . International Union for the Scientific Study of Population, Ordina Editions, Liège, BE. pp. 109-142 (tables, 31 refs.) Fr ISBN 2-87040-032-2

§ In this paper, the author suggests ways in which the researcher can bridge the gap between current and ideal study designs for drawing causal inferences about mortality determinants. Four major problems are discussed and their impact on the potential of studies on mortality differentials in developing countries is evaluated. A classification of methods of data collection suggested that nested surveys may prove to be the most useful for drawing conclusions about mortality determinants in developing nations. It is emphasized that, due to the high sensitivity of infant and childhood mortality to social inequalities, it is perhaps preferable to concentrate the analysis in mortality levels within these age segments. In addition, it was argued that, because many of the problems for the study of adult mortality differentials are absent for the study of infant and child mortality differentials, the latter efforts may have a higher payoff from a policy point of view than those oriented to the study of adult mortality differentials. To the strategies of data collection recommended here, there correspond a group of strategies of data analysis. These were discussed with reference to the possibility of assessment of the simultaneous effects of micro and macro variables; the explicit introduction of a measurement model, nested within the model of mortality determinants; and the efficiency of estimation depending on the level of aggregation of the dependent variable. Corresponding to these three dimensions, alternative model specification and estimation techniques were suggested. All of these models and techniques are capable of handling individual-household-community level variables. (AU abbrev.)

609 **Palloni, A.** 1985. *An epidemio-demographic analysis of factors in the mortality decline of "slow-decline" developing countries.* In International population conference, Florence, IT, 5-12 June 1985, vol.2 . International Union for the Scientific Study of Population, Liège, BE. pp. 329-351 (tables, figs., 25 refs.) Fr ISSN 0254-5217

§ Two types of countries are contrasted: those that are considered to be slow-decline mortality countries and those considered to be rapid-decline mortality countries. The mortality evolution characteristics are sharply different. They suggest the existence of two polar types of mortality transitions in developing countries with a series of hybrid types in between. In addition to the evolution of levels of mortality, the paper traces historical differences in the structure of causes of deaths, the age patterns and the differentials of mortality across significant social groups. Three alternative sets of explanatory factors are examined and their power to account for the disparities between the two polar types of mortality transitions is evaluated. (AU)

610 **Palloni, A., Millman, S.** 1985. *Effects of interbirth intervals and breastfeeding on infant and early childhood mortality.* Working paper no. 85-11, Center for Demography and Ecology, University of Wisconsin, Madison, US. 49 p. (tables, 11 refs.)

§ This paper has three objectives: two are substantive, one is methodological. The first concerns the magnitude and direction of the effects of breastfeeding and pace of childbearing on infant and early childhood mortality. Such effects are considered simultaneously, in accordance with theoretical models that not only posit a relationship between breastfeeding and mortality, but also predicate mechanisms whereby the effects of pace of childbearing would operate, at least in part, through modifications of breastfeeding patterns. Second, the authors attempt to show that the relationships involved are not always the same and that their effects may change according to subgroup characteristics. The methodological target is to evaluate the sensitivity of the process of hypothesis testing to a set of two characteristics: the method of estimation of effects, and the measurement of strategic independent variables such as the interbirth intervals and breastfeeding duration. (AU modified)

611 **Palloni, I.** 1980. *Estimating infant and childhood mortality under conditions of changing mortality.* Population Studies, 34, 129-142 (tables, 9 refs.) ISSN 0032 4728

§ After evaluating the errors involved when techniques that assume constant mortality in infancy and childhood are used where mortality is changing, the author presents a technique for estimating such mortality in a situation of declining mortality. The technique uses estimates of mortality produced by "manipulating the information on proportion of children dead and age distribution of surviving children under the wrong assumption that mortality has remained constant during the past." The technique is tested using simulated data. (F.M.)

612 **Palmer, I.** 1981. *Seasonal dimensions of women's roles.* In Chambers, R., Longhurst, R., Pacey, A., Seasonal dimensions of rural poverty. Francis Pinter, London, GB. pp. 195-201 ISBN 0-86598-057-8

§ In this chapter, the author argues that analyzing the seasonality of women's roles gives insight to problems of the quality of life for the whole community because of women's responsibility for both productive and reproductive tasks. She indicates that health and family planning workers are beginning to question the rationality of the sexual division of labour and of social relations of production between men and women, and to view these as major obstacles to development. The study reviews the relationship between the seasonality of births and deaths and women's roles, the impact of agricultural intensification on women, and obstacles to the amelioration of women's work loads. (F.M.)

613 **Parkin, J.M.** 1975. *A longitudinal study of village children in Uganda: pattern of illness during the second year of life.* In Owor, R., Ongom, V.L., Kirya, B.G., The child in the African environment. Proceedings of 1974 annual scientific conference of the East African Medical Research Council. East African Literature Bureau, Nairobi, KE. pp. 193-195 (tables, 1 ref.)

§ In a longitudinal study during the first 3 years of life of 40 children living in a rural area near Kampala, data on growth, dietary intake, clinical illness, and biochemical and hematological measures in the blood were collected. The paper describes how the study was started and organized and gives details of the incidence of illness during the children's second year of life compared with similar data from an industrial city in England. The results suggest that the incidence of illness, often comparatively mild, is sufficiently high to have a significant effect on the children's dietary intake and thereby play a primary role in the etiology of undernutrition. (AU)

614 **Paul, A.A., Müller, E.M., Whitehead, R.G.** 1979. *Quantitative effects of maternal dietary energy intake on pregnancy and lactation in rural Gambian women.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 73(6), 686-692 (tables, figs., 22 refs.)

§ In a 1977 study of 29 Gambian women, the quantitative relationships between dietary intake and weight gain in pregnancy, birth weight, and lactation performance during the first 3 months of infancy were analyzed, taking into account major differences in the patterns of heavy manual labour at different times of the year in a subsistence farming community. The results are discussed and presented as statistical data. Maternal weight gain, subcutaneous fat stores, and birth weight were significantly lower when the last trimester of pregnancy fell during the time of heaviest farm work and lowest energy intake. Lactation was similarly affected. (SALUS)

615 **Payne, D., Grab, B., Fontaine, R.E. , Hempel, J.H.** 1976. *Impact of control measures on malaria transmission and general mortality.* Bulletin of the World Health Organization, 54(4), 369-377 (tables, map, 8 refs.) Fr

§ A research project sponsored by WHO and carried out in Kenya in 1972-76 evaluated the impact of fenitrothian spraying on malaria transmission. This study examines the effects of pest control efforts on the death rate of the population in general and on infant mortality in particular. The methodology is described in detail. The daily parisitological inoculation rate was reduced from 0.00958 infective bites per individual before treatment to 0.00037 after treatment (a decrease of 96%). In 2 years, the general mortality declined from 23.9 to 13.4 deaths per 1000 population. Infant mortality decreased from 157 to 93 deaths per 1000 live births. Statistical data are included. (SALUS)

616 **Payne, P., Cutler, P.** 1984. *Measuring malnutrition: technical problems and ideological perspectives.* Economic and Political Weekly, 19(34), 1485-1490 (13 refs.)

§ There is just now a particularly fierce and wide-ranging dispute about the nature and extent of malnutrition in the developing world. The conflict is only partly about the statistical basis of the quantification of the malnourished. To a much greater extent it is due to the fact that the various opponents take their stands upon the basis of fundamentally different theoretical frameworks - often, it seems, without any consciousness of that fact. Like many other groups of natural scientists, nutritionists have been slow to assimilate the implications of the developments in the history and philosophy of science which, during the last decade or so, have indicated the connections between scientific theory and social ideology, and which have given insights into the nature of the processes through which theories are developed and tested. The purpose of this paper is to try to show that, if we want to assess the current state of knowledge and controversy in nutrition, then it is as important to understand the nature of the social and political context within which any particular theory has arisen, as it is to judge the technical quality of the data and the criteria which have been used to test it. (AU)

617 **Pebley, A.R.** *Evidence concerning the determinants of child mortality in developing countries from longitudinal field studies.* Paper prepared for the Workshop on child survival: strategies for research, Bellagio, IT, 11-15 Oct. 1983. 56 p. (tables, figs., 50 refs.)

§ This paper examines the role of data from longitudinal field studies in attempts to test and quantify the relationship between socioeconomic and biological determinants of child mortality. First, the author compares data collected and results generated from three field projects with different research designs and objectives. The model developed by Mosley and Chen serves as an organizing framework for this discussion. The types of data collected in each project and the ways in which these data have been used to investigate mortality determinants are discussed. Second, the paper considers some of the limitations and biases encountered when using data from intervention projects to study the effect of socioeconomic factors on biological variables determining survival or mortality. (AU modified)

618 **Pendleton, B.F., Shu-O, W.Y.** 1985. *Socio economic and health effects on mortality declines in developing countries.* Social Science and Medicine, 20(5), 453-460 (tables, figs., 43 refs.) ISSN 0277-9536

§ It has been argued that mortality declines in developing countries have not been associated with social and economic factors because of the diffusion from the developed countries to the developing countries of health and medical techniques. This paper examines the relationship between socioeconomic development and health and mortality declines in developing countries that are in two different stages of the demographic transition. A path model linking socioeconomic and health variables and mortality is developed and tested for early and late transition nations. The empirical findings indicate that the network of socioeconomic variables and their effects on mortality are much more significant in late transition countries than in early transition countries. Although the impact of health services on crude death rates is large in the early transition nations, its impact declines considerably as countries reach a more transitionally mature stage. (AU)

619 **Pickering, H.** 1985. *Social and environmental factors associated with diarrhoea and growth in young children: child health in urban Africa.* Social Science and Medicine, 21(2), 121-127 (tables, 32 refs.) ISSN 0277-9536

§ This study investigates the relationship between social and environmental variables and diarrhea and growth in children, 6-36 months, in an urban area of Gambia, West Africa. The social and environmental conditions of 493 children were observed and recorded over a period of 12 months; 277 children were under weekly diarrhea surveillance for a 15-week period during the wet season and 322 children had anthropometric measurements taken in May and September. Computer analysis was used to determine association between single and multiple environmental and social factors and diarrhea prevalence and growth. The results of the diarrhea surveillance showed that there was considerable variation between individual children. During the period of surveillance, 30 children had no diarrhea and 30 had diarrhea for over 24% of the time, with 2 children having diarrhea for more than 50 days out of a total of 105. None of the social and environmental variables recorded showed a significant relationship with diarrhea prevalence. The anthropometric measurements showed that at the end of the wet season, in September, 23% of children in this age group were less than 90% of the National Centre for Health Statistics standards of height-for-age and several of the variables recorded showed a statistically significant association with this measurement. (AU)

620 **Pilon, M.** 1984. *Niveaux et tendances de la mortalité dans l'enfance dans quelques régions rurales d'Afrique de l'Ouest : Kongoussi-Tikaré. Mariatang. Réo (Haute-Volta). Plateau de Dayes (Togo) (1950-1974).* Cahiers de l'ORSTOM - Série Sciences Humaines, 20(2), 257-264 (tables, fig., 6 réf.) En, Es

§ Cet article présente quelques résultats sur la mortalité dans l'enfance, issus de quatre enquêtes démographiques effectuées par l'ORSTOM dans des régions rurales d'Afrique de l'Ouest (Burkina Faso et Togo). Il se dégage une baisse globale de la mortalité infantile et juvénile, avec cependant une stagnation pour les dernières générations observées, vers le début des années 70. La région de Kongoussi-Tikaré (Burkina Faso), se différencie des autres par une surmortalité juvénile, et une baisse plus importante de la mortalité dans l'enfance. Par ailleurs, il n'apparait pas de différences significatives entre les deux sexes. (AU)

621 **Pique, G., Roy, C., Gateff, C.** 1982. *Etude de certains paramètres biologiques dans les malnutritions protéino-caloriques subcliniques de l'enfant ivorien.* Médecine Tropicale, 42(6), 649-658 (tables, fig., 10 réf.) En

§ La malnutrition protéique domine la pathologie de la petite enfance dans le tiers monde. Le présent travail a été entrepris dans le but de rechercher des indicateurs biologiques précoces de carence nutritionnelle. L'étude effectuée sur 1317 enfants de 1 à 3 ans a montré que : dans la malnutrition protéique asymptomatique, l'hémoglobine, la concentration corpusculaire en hémoglobine, la préalbumine et l'albumine sont significativement abaissées et permettent une suspicion plus précoce que le poids. Dans la malnutrition protéino-calorique, le poids reste l'indicateur majeur; le pesée des enfants associée à la determination de ces paramètres devrait améliorer le dépistage des malnutritions asymptomatiques. Ainsi, l'éducation nutritionnelle des mères pourrait être envisagée de façon beaucoup plus précoce. Il reste à faciliter le dosage rapide de ces paramètres biologiques. (AU)

622 **Pison, G.** 1982. *Dynamique d'une population traditionnelle. Démographie.*

apparentement et mariage dans une population d'effectif limité : les Peul Bandé (Sénégal oriental). Institut national d'études démographiques, Travaux et documents, Cahier no. 99, Presses Universitaires de France, Paris, FR. 278 p. (tables, fig., 93 réf.) ISBN 2-7332-0099-2 ISSN 0071-8823

§ Cette étude est basée sur des données démographiques et généalogiques recueillies sur les Peul Bandé, petite population du Sénégal oriental comprenant 3867 individus au 1er mars 1980, d'après le recensement de l'auteur. Ces données ont été analysées en vue de décrire les caractéristiques démographiques de la population. Le champ d'étude dépasse celui de l'analyse démographique, état et mouvement de la population et aborde certains thèmes de l'anthropologie comme la famille et les apparantés, le choix du conjoint. L'objectif était au départ de mesurer de la façon la plus précise possible les paramètres démographiques de la population étudiée. (AU modifié) •

623 **Pison, G., Langaney, A.** 1984. *The level and age pattern of mortality in Bandafassi (Eastern Senegal): results from a small-scale intensive multi-round survey.* African demography working papers no. 11, Population Studies Center, University of Pennsylvania, Philadelphia, US. 48 p. (figs., tables, map, 20 refs.)

§ The data collected by the Bandafassi demographic study in eastern Senegal, a small-scale intensive and experimental follow-up survey on a population of about 7000 inhabitants in 1983, were analyzed to derive an estimation of the life table. The use of the multiround survey technique, combined with anthropological methods to estimate ages and collect genealogies, results in unusually reliable data. Taking into account the uncertainty of the estimates related to the small size of the population, the measures of mortality show a high mortality level, with life expectancy at birth close to 31 years; a pattern of infant and child mortality close to that observed in other rural areas of Senegal; a seasonal pattern in child mortality with two high-risk periods, the rainy season and the end of the dry season; an adult mortality pattern similar to that described in model life tables for developed countries; no significant differences with sex or ethnic group. (AU)

624 **Pison, G.** 1985. *Nouvelles méthodes de collecte dans les enquêtes à petite échelle.* In International Population Conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. pp. 23-38 (tables, 14 réf, fig.) En ISBN 2-87108-008-9 ISSN 0254-5217

§ L'intérêt croissant porté aux enquêtes à petite échelle vient de la prise de conscience des limites des enquêtes à vaste échelle. Dans les pays en développement en particulier, elles ne fournissent encore que des estimations démographiques incertaines. L'une des applications possibles des enquêtes à petite échelle dans ces pays est l'amélioration des mesures démographiques. Cette amélioration passe par la mise au point de méthodes de collecte nouvelles. Nous en présentons ici trois, spécifiques des enquêtes à petite échelle, en les utilisant par une application au Sénégal oriental. Le classement chronologique permet d'ordonner des événements en utilisant un système de fiches; les chronologies relatives ainsi obtenues servent alors à dater les événements de date inconnue, à la façon d'un calendrier historique. Les généalogies, bien que recueillies souvent en vue d'études familiales, permettent également d'améliorer la collecte : elles corrigent les omissions des recensements, et les données qu'elles fournissent sur la survie des parents, ou sur leur lieu de résidence, sont bien meilleures que celles obtenues à l'aide de questionnaires classiques, en particulier dans les pays africains. L'observation suivie fournit des données de qualité sur les naissances et les décès, et les mesures démographiques obtenues dans les observatoires de population peuvent servir à évaluer et à corriger les résultats des enquêtes à vaste échelle. Ces différentes méthodes ont en commun de ne pouvoir être appliquées avec succès que par des enquêteurs très qualifiés. Par ailleurs, la collecte des données est plus longue qu'en utilisant les techniques d'enquêtes classiques. (AU abrégé)

625 **Post, J.E., Smith, R.A., Solimano, G.** 1984. *Marketing infant foods in four developing nations: trends since the WHO code.* In Research Consortium for the Infant Feeding Study, The determinants of infant feeding practices: preliminary results of a four-country study. International programs working paper no. 19, 111th annual meeting of the American Public Health Association, Dallas, US, 13-17 November 1983. Population Council, New York, US. pp. 45-56

§ This study of marketing activities was intended to analyze the direct effects of

marketing activities and the interaction of marketing with other factors found to influence infant feeding practices subsequent to the May 1981 adoption of the WHO code of marketing for breastmilk substitutes. Findings based on the systematic collection and analysis of several types of marketing data in Kenya, Thailand, Colombia, and Indonesia are presented. Data indicate that the marketing of infant foods has changed since 1981. The decline of consumer-directed promotion has been accompanied by extensive promotion aimed at health workers, expansion of product availability at the retail level, and aggressive price competition. The continued distribution of samples to populations with significant risk factors remains an important public health concern. (AU modified)

626 **Powers, M.G.** 1984. *Compiling social indicators on the situation of women.* Studies in methods series F, no. 32, United Nations, New York, US. 94 p. (tables, refs.)

§ This report reviews concepts and data sources for indicators of the social and economic situation of women. It aims to provide concrete guidance to producers and users of statistics on women with illustrations and examples of the selection, specification, and use of indicators. The first part of the report reviews basic objectives, methods, and sources for social indicators on the situation of women. It considers demand for and uses of socioeconomic indicators, special issues concerning statistics and indicators on the situation of women, and sources and limitations of basic data. The second part presents and discusses illustrative indicators on the situation of women in the fields of family formation, families, and households; learning and educational services, economic activity, and labour-force participation; health, health services, and nutrition; income and income distribution; rural or urban residence and migration; and legal and political power. Annexes provide additional information on illustrative series for selecting indicators in different types of countries, on international publications, and on International Standard Classification of Occupations, which is widely used in compiling labour-force statistics. (AU abbrev.)

627 **Prentice, A., Prentice, A.M., Cole, T.J., Whitehead, R.G.** 1983. *Determinants of variations in breast milk protective factor concentrations of rural Gambian mothers.* Archives of Disease in Childhood, 58(7), 518-522 (figs., 13 refs.)

§ The concentrations of seven immunoproteins in the breast milk of 152 rural Gambian women were measured as part of a semilongitudinal study to assess their importance in infant health. The first major finding is that substantial long-term differences exist between the protective factor (PF) outputs of different women. Parity was the major determinant of ranking and mothers of parity 1 and 2 produced the highest concentrations of immunoproteins. Secondly, the intake of PF by all infants decreased as the prevalence of infectious diseases, especially diarrhea, increased in the rainy season. (AU modified)

628 **Prentice, A.M., Whitehead, R.G., Watkinson, M., Lamb, W.H., Cole, T.J.** 1983. *Prenatal dietary supplementation of African women and birth-weight.* Lancet, 1(8323), 489-492 (16 refs) ISSN 0140-6736

§ Gambian women, who show marked seasonal fluctuations in energy balance, were offered a dietary supplement during pregnancy. This resulted in a net energy increment of 431 kcal/day. In the wet season, when the women were normally in marked negative energy balance, the supplementation improved birth weight by a mean of 224 g and reduced the incidence of low-birth-weight babies (< 2.5 kg) from 28.2 to 4.7%. In the dry season, when the women were previously in positive energy balance, despite an energy intake of only 60% of the recommended dietary allowance, the supplement had no beneficial effect on birth outcome. This threshold effect indicates the need to identify groups that are truly at risk for prenatal supplementation programs. (AU)

629 **Preston, S.H.** 1978. *Mortality, morbidity and development.* Population Bulletin of the Economic Commission for Western Africa, 15, 63-75 (tables, 39 refs.)

§ The author notes that the subject of economic effects of demographic change is enormously complex. The paper focuses on mortality as a variable dependent on other components of modernization. The aim is to summarize what is known about determinants of mortality levels, and to distinguish the effects of general socioeconomic development from those of specific health interventions. (AU modified)

630 **Preston, S.H.** 1980. *Causes and consequences of mortality declines in less developed countries during the twentieth century.* In Easterlin, R., Population and economic change in developing countries. University of Chicago Press, Chicago, US. pp. 289-360 (tables, 125 refs.)

§ This paper has two purposes: to identify the factors responsible for mortality improvements in developing countries and provide estimates of their relative importance; and to begin tracing the effect of these improvements on demographic and economic processes. (AU)

631 **Preston, S.H.** 1982. *Research strategies for studies of factors affecting mortality.* Paper presented at the UN/WHO second project collaborators' meeting on case studies of determinants of mortality change and differentials, New York, US, 15-18 June 1982. 32 p. (30 refs.) IESA/P/AC.19/1

§ This paper discusses in relatively nontechnical terms some statistical issues commonly encountered in studies of mortality. Initial discussion is organized around some basic decision rules for selecting dependent and independent variables for mortality analysis. Discussion is included not only of the selection of variables but also the functional forms in which they are expressed and statistical procedures for studying them. (AU modified)

632 **Preston, S.H.** 1983. *An integrated system for demographic estimation from two age distributions.* Demography, 20(2), 213-226 (tables, figs., 13 refs.)

§ This paper presents a simple method for estimating birth rates and, simultaneously, a parameter representing the level of mortality. It is designed for use in countries lacking good vital registration. The birth rate is inferred from the intercept of a straight line; the level of mortality is inferred from the slope of that line. The estimation procedure integrates Brass's one-parameter logit mortality system with recently developed equations generalizing stable population theory. Two successive age distributions are required to use the system. (AU)

633 **Preston, S.H.** 1984. *Use of direct and indirect techniques for estimating the completeness of death registration systems.* In Department of International Economic and Social Affairs/U.N., Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 Oct. 1981. Population studies no. 84, Department of International Economic and Social Affairs, United Nations, New York, US. pp. 66-76 (25 refs.) ST/ESA/SER.A/84

§ In this chapter, the author gives a compact description of the methods available for evaluating the coverage of death registration, and, if necessary, adjusting for omission. The first part of the paper covers indirect methods, which evaluate coverage by appeal to independent information on population age distributions, beginning with those which assume that the population is stable, that is, characterized by constant fertility, mortality, and age distribution; and proceeding to the more recent methods, which avoid this assumption by substituting information on population change over time. The second part of the paper discusses direct procedures for evaluation, basically dual-record approaches, and the relative advantages of the indirect and direct procedures. (Hill 1984)

634 **Preston, S.H.** 1985. *Mortality in childhood: lessons from WFS.* In Cleland, J., Hobcraft, J., Reproductive change in developing countries. Oxford University Press, Oxford, GB. pp. 253-272 (47 refs.)

§ This chapter is an attempt to summarize what had been learned about the value of World Fertility Survey (WFS) data for the study of child mortality levels and differentials in developing countries. The discussion is divided into two parts: the usefulness of WFS data for estimating levels and trends in mortality (including a section on data quality); and the usefulness of WFS data for studying differentials in and determinants of child mortality. The latter is divided into discussions of socioeconomic and biodemographic differentials. (AU)

635 **Pugh, R.N., Burrows, J.W., Bradley, A.K.** 1981. *Malumfashi Endemic Diseases Research Project. XVI: the findings of a survey for schistosomiasis mansoni, hookworm, giardiasis and nutritional status.* Annals of Tropical Medicine and Parasitology, 5(3), 281-292 (tables, figs., map, 24 refs.)

§ A parasitological stool survey was conducted on a 10% random sample of villagers (429 individuals) living around a recently constructed low earth dam in an area of northern Nigeria. The study revealed a high incidence of low intensity hookworm (40%) and *Giardia lamblia* (18%) infections. An additional parasitological survey and an anthropometric study were conducted on preschool children from two villages with abundant and inadequate water supplies, respectively. A greater incidence of wasting and a higher prevalence of giardiasis were discovered among the children from the village with the inadequate water supply, although a causal relationship could not be established. This paper presents and discusses data from both studies and suggests that further research is needed to clarify the importance of giardiasis infection in impaired nutrition status. (SALUS)

636 **Pujol, J.M.** 1985. *New methods for evaluating and adjusting conventional demographic data.* In International population conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. pp. 11-22 (tables, 12 refs.) Fr ISBN 2-87108-008-9 ISSN 0254-5217

§ Three methods, which have been recently proposed for estimation and evaluation of demographic data, are described in a summary way. The first of these methods has been developed by Bennett and Horiuchi; its goal is to estimate intercensal mortality from incompletely registered deaths using age-specific population growth rates. An application of this method to a Latin American country is given as an example; the method is used to estimate the coverage of death registration relative to the completeness of the census populations. Some other applications using the same ideas are also mentioned. The second methodology concerns the timing of mortality estimates derived from information on maternal orphanhood. The Latin American Demographic Centre has recently experimented with including a question concerning the year of death of the mother (when the respondent's mother has died). This paper demonstrates the value of including this question on year of death so that empirical estimates of reference dates can be compared with the theoretical ones. Finally, a procedure that is still in the experimental stage is discussed. The objective of the method is to estimate childhood mortality from questions about the survival of the previous child put to women attending a medical centre for delivery. This question provides an approximate way of measuring the probability of dying from birth to age 30 months for a recent period. (AU)

637 **Rain, J.D., Kouie, J., Daignekpo, N.T., Cagnard, V., Aholi, P.** 1982. *Les anémies sévères du nourrisson et de l'enfant en milieu tropical africain : résultats d'une étude prospective portant sur 400 observations.* Annales de pédiatrie, 29(4), 289-295 (tables, fig., 31 réf.) En

§ L'étude prospective de 400 anémies sévères du nourrisson et de l'enfant en milieu tropical africain a montré que les causes les plus fréquentes d'anémie à cet âge sont les carences dominées par la carence martiale et les anémies hémolytiques représentées essentiellement par la drépanocytose et le paludisme. L'étiologie de l'anémie a pu être mise en évidence 327 fois. Dans près de la moitié des cas plusieurs causes sont retrouvées. Ce fait souligne la nécessité chez ces enfants de dépister tous les facteurs responsables de l'anémie afin d'instituer un traitement le plus complet possible. La mortalité est de 9 %. Elle est liée plus à la gravité de la maladie anémiante (leucémie, drépanocytose homozygote) qu'à la sévérité de l'anémie elle-même. Un important effort de santé publique est indispensable pour diminuer la morbidité encore très importante de ces anémies sévères dans les services de pédiatrie d'Afrique tropicale. (AU)

638 **Rajcoomar, V., Wong, P.C.** 1983. *Preliminary report on breastfeeding and infant health survey conducted in the island of Mauritius.* Ministry of Health, Port Louis, MU. 24 p. (tables)

§ In view of widespread evidence in the Third World of the decrease in breastfeeding, the purpose of this study was to provide a base for the development of programs to support breastfeeding. In the preliminary report the findings from a survey of 1000 children under the age of 1 year are discussed. Data, collected by retrospective questionnaire survey, included information on the socioeconomic environment; maternal age, education, parity; ethnicity; and rural-urban differentials. Observations included: education is negatively related to breastfeeding; maternal employment or education had only a marginal effect on infant feeding practices; rural women breastfed for longer than urban women. (F.M.)

639 **Ramachandran, K.V., Venkatacharya, K., Teklu, T.** 1981. *Fertility and mortality levels, patterns and trends in some English-speaking African countries.* In

Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov.-1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 190-218 (tables, refs.) ST/ECA/SER.A/1

§ The authors discuss the availability of data and the usefulness of indirect techniques for estimating mortality and fertility in Ghana, Sierra Leone, Tanzania, Ethiopia, Swaziland, Botswana, Malawi, Mauritius, Sudan, Gambia, Uganda, Kenya, Zambia, and Libya. Problems associated with data collection analysis are discussed and recommendations are made with respect to future censuses. (F.M.)

640 Ransome-Kuti, O. 1983. *The effect of parity, birth intervals and maternal age on the health of the child.* In del Mundo, F., Ines-Cuyegkeng, E., Anado, D.M., Primary, maternal and neonatal health: a global concern. Proceedings of the First international congress on maternal and neonatal health, Manila, PH, 2-7 Nov. 1981. Plenum Press, New York, US. pp. 53-61 (tables, 27 refs.) 0-306-41179-2

§ Through a discussion of factors affecting the health of a child (parity, birth interval, maternal age, size of family) and the role of health services in providing comprehensive health care programs vis-à-vis family planning services, the author makes a case for the integration of maternal and child services with family planning. (F.M.)

641 Rashad, H. 1981. *The estimation of mortality: new methods and variations of the known ones.* In Proceedings of the International population conference, Manila, PH, 1981, 2. International Union for the Scientific Study of Population, Liège, BE. pp. 363-373 (12 refs.) Fr

§ In reviewing recent advances in indirect mortality measurement, methods using survivorship reports of births, parents, kin, and spouses; and methods which manipulate defective data to obtain plausible measures are discussed. The author concludes that advances cover different aspects but the focus of attention had been to relax the assumption of stability. (AU modified)

642 Rehan, N.E., Tafida, D.S. 1979. *Birth weight of Hausa infants in northern Nigeria.* British Journal of Obstetrics and Gynaecology, 86, 443-449 (23 refs.)

§ The birth weights of 1460 Hausa infants born from 1 January 1975 to 31 December 1976 were recorded and analyzed. Average weight was 3.03 kg, being higher in males (3.08 kg) than in females (2.97 kg) - a statistically significant difference. The mean birth weight of first-born children was significantly lower than the subsequent born, and increasing birth order was associated with higher birth weight irrespective of maternal age, indicating that birth weight was influenced more by parity than by maternal age. Incidence of low birth weight was 15.8%, being lower in males (13.6%) than in females (18.1%). Comparisons were made with studies from other parts of Nigeria and from other countries. (SALUS)

643 Rehan, N.E. 1982. *Still births in a Hausa community.* Journal of the Pakistan Medical Association, 32(7), 156-162 (tables, figs., 30 refs.)

§ The prevalence and etiology of stillbirths were studied among 3858 Hausa infants born at Maternity Hospital, Katsina, Nigeria. The stillbirth rate, 113 per 1000 births, was higher among grand multiparae and in women older than 35 or younger than 16 years. The lowest incidence of stillbirths was observed among secundiparae of 17-19 years. Large age difference between spouses, advancing maternal age, and increasing birth order were associated with higher stillbirth rates. The most prominent etiological factors were obstructed labour (23%), antepartum hemorrhage (17%), and malpresentations (16.5%). The effect of certain social factors was also studied. (AU)

644 Reinhardt, M.C., Gautier, E., Gautier, R., Kakou, D., Ouattara, M. 1978. *Year of deliveries at the Adjamé Maternity Hospital in Abidjan (Ivory Coast).* Helvetica Paediatrica Acta, 33 (supplement 41), 7-20 (tables, figs., 23 refs.) De, Fr

§ A total of 7433 deliveries at or on the way to the Adjamé Maternity Hospital in Abidjan (Côte d'Ivoire) from 1 December 1974 to 30 November 1975 are analyzed in detail. Statistical data are presented on birth weight, height, abortions and stillbirths, infant mortality, and multiple pregnancies. High correlations between low parity and low birth weight and low parity and high incidence of abortion and stillbirth were observed. It is suggested that public health measures should concentrate on prenatal care of primiparae. (SALUS)

645 **Remme, J., Mandara, M.P., Leeuwenburg, J.** 1984. *The force of measles infection in East Africa.* International Journal of Epidemiology, 13(3), 332-9 (tables, figs., 20 refs.) ISSN 0300-5771

§ Catalytic models were applied to age-specific incidence data from two East African studies to study the force of measles infection in relation to age. In East Africa, the force of measles infection appears to be independent of age, probably as a result of socioculture factors. Consequently, the incidence of measles is highest in the second half of the first year of life and decreases with increasing age. Major vaccination efforts will raise the average of measles attack, but the peak incidence will remain in the first year of life. This complicates the decision on the optimal age for vaccination and the need for incidence surveillance is stressed. The simple catalytic model which is based on the assumption of an age-independent force of infection may play an important role in measles surveillance. (AU abbrev.)

646 **Research Consortium for the Infant Feeding Study,** 1984. *The determinants of infant feeding practices: preliminary results of a 4-country study.* International programs working paper no. 19, Population Council, New York, US. 97 p. (tables, figs.)

§ In late 1979, the Research Consortium for the Infant Feeding Study began a research project designed to examine the effects of socioeconomic, biological, and cultural factors on infant feeding patterns among over 4000 urban women in four developing countries. The study was undertaken in Bangkok, Bogota, Nairobi, and Semarang with the collaboration of colleagues at institutions in those cities. The preliminary findings presented in this working paper describe the patterns of infant feeding encountered in the urban areas studied and show the interrelationships emerging between infant feeding patterns and health care practices, marketing practices, women's work, and knowledge and attitudes of mothers about breastfeeding. (AU) (See also Lathan et al. 1984; Laukaran and Esterik 1984; Post et al. 1984; Solimano et al. 1984; Winikoff and Laukaran 1984.)

647 **Retel-Laurentin, A., Benoit, D.** 1981. *Infant mortality and birth intervals.* Population Studies, 30(2), 279-293 (tables, figs., 7 refs.)

§ On the basis of a 1971 medico-demographic survey of 2263 pregnancies in nine villages inhabited by the Bobo-Oulé, the authors discuss the relationship between infant and child mortality, birth intervals, and low fertility. It is argued that fetal and neonatal mortality is related to the level of sterility, no doubt an account of the prevalence of venereal disease. After the peak of neonatal mortality has passed, external factors become most important. During the first month of life, tetanus is the main cause of death. Between the ages of 1 and 4 years, epidemic diseases and diseases of the digestive system are the most important causes of death. The nature of birth intervals is better understood if account is taken of miscarriages and temporary sterility. (AU modified)

648 **Retschitzki, J.** 1982. *L'influence des pratiques éducatives sur le rythme de développement cognitif des bébés. Baoule de Côte d'Ivoire.* Psychopathologie Africaine, 16(2), 121-141 (table, fig, 14 réf.) En

§ A travers la discussion des résultats obtenus lors d'une étude du développement cognitif (intelligence sensori-motrice, débuts de la fonction semiotique et comportement spontané) d'un échantillon de 63 bébés baoules, l'auteur aborde le problème du rôle joué par les facteurs éducatifs dans la relative précocité intellectuelle mise en évidence. Les pratiques éducatives en vigueur dans cette population sont caractérisées par un allaitement prolongé, le contact très étroit entre la mère et l'enfant, l'absence de frustration pour le bébé et une grande permissivité à son égard. Ces coutumes, ainsi que la précocité motrice caractérisant ces sujets, créent des conditions favorables à l'activité des bébés et leur permettent d'explorer leur environnement. Les modulations observées dans le rythme de développement selon le type de situation peuvent s'expliquer par les caractéristiques du milieu. (AU)

649 **Rey, M., Blot, I., Oudart, J.-L., Diop Mar, I.** 1976. *Influence de la malnutrition protéino-calorique sur les infections: résultats d'une étude hospitalière sénégalaise.* Annales Pédiatrique, 23(8-9), pp. 559-567 (tables, fig., 33 réf.) En, Es

§ Une enquête hospitalière concernant 187 enfants sénégalais agés de 6 à 60 mois a cherché à mettre en évidence les effets de la malnutrition protéino-calorique sur l'évolution des principales infections hospitalisées (rougeole, gastro-entérite, coqueluche, broncho-pneumopathies, méningites, purulentes, diphtérie, tétanos, accès pernicieux palustre). L'effet synergique de la malnutrition vis-à-vis des gastroentérites, de la rougeole, de la coqueluche, a été confirmé, ainsi que l'effet antagoniste vis-à-vis du paludisme grave à *P. falciparum*. Il n'a pas été possible de se prononcer à propos des autres infections, mais il semble qu'il existe une synergie particulière entre pneumococcies et malnutrition. Les résultats de ce travail démontrent une fois de plus que la prévention de la morbidité et de la mortalité infectieuse en zone tropicale ne peut se passer d'une action nutritionnelle, qui doit s'ajouter aux mesures préventives anti-infectieuses directes ou indirectes, telles que vaccinations, chimioprophylaxie antipaludique, assainissement. (AU)

650 Rey, M. 1976. *Place of measles and its prevention among public health priorities in tropical Africa.* Children in the Tropics, 104, 3-10 (tables, figs.)

§ The author strongly urges that mass vaccination campaigns be used to control measles, which, with a death rate of 10% among children, is one of the four main infectious causes of infant mortality in tropical Africa. Because measles is so closely linked to malnutrition and often triggers kwashiorkor in infected children, it is 1000 times more deadly in Africa than in industrialized nations, where living conditions and nutritional standards diminish its impact. Because living conditions and nutrition in Africa cannot be sufficiently improved in a short enough time, the author stresses that immunization, despite its expense, is the only effective weapon against measles. Although he admits that the results of some mass campaigns have been disappointing due to poor coverage, improperly administered vaccinations, inactive vaccines, and ineffective vaccinations given to infants aged less than 6 months, he cites the 85% reduction in measles-related morbidity in Côte d'Ivoire, the 75% reduction in Cameroon, the 60% reduction in Senegal, and the virtual eradication of the disease in the Gambia as examples of what can be accomplished by a properly-conducted mass campaign. Consequently, he suggests that priority be given to measles, poliomyelitis, and tetanus in Africa, because they can all be controlled by vaccination. (SALUS)

651 Rizigalla, M.K., Ramachandran, K.V. 1982. *Mortality levels and differentials in the Sudan.* In Abdel-Farah, A.M., El-Nun, O.H.M., El-Eldawi, T.A., Aspects of population change and development in the Sudan: proceedings of the Second national population conference, Khartoum, SD, 26-28 April 1982. National Population Committee, Khartoum, SD. pp. 57-68 (tables)

§ Using mortality data from the 1973 census, the authors discuss mortality patterns in the Sudan. Owing to problems with the data, results refer only to the settled (urban and rural) and not nomadic populations. Various estimates of infant mortality are considered. One estimate gives a rate of 80 per 1000 for the northern region which compares with a figure of 157 per 1000 for the southern region. These figures are considered underestimates. Analysis indicates not only regional differentials, but also the variations in infant and child mortality according to rural or urban residence, maternal education, and economic activity of family members. (F.M.)

652 Roberts, C.M. 1984. *The short term effects of a measles vaccination programme on a rural Nigerian community.* Journal of Tropical Pediatrics, 30(3), 184-188 (tables, 11 refs.) ISSN 0142-6338

§ A retrospective study compared two child populations (totaling 774 children), one with a significant measles vaccination rate and the other without such protection. Questionnaires, physical examinations, and antibody titres were used to determine the incidence of measles in the two groups. Findings demonstrated that measles incidence was significantly lower ($p < 0.05$) in the vaccinated group but also within unvaccinated children living in the same community ($p < 0.001$). (AU modified)

653 Rodrigues, O., Rodrigues, A.M. 1977. *Evaluation of the role of pre-school clinics.* East African Medical Journal, 54(1), 38-42 (tables, 10 refs.)

§ Data obtained from the weight charts of 208 children attending two clinic sessions in rural Tanzania in 1974 did not show any demonstrable improvement in the weight gain of the children due to clinic attendance or a vigorous nutrition education program. It is therefore suggested that, in a situation of resource scarcity, the preschool clinic can be more effective in nutrition surveillance than nutrition education, which, at this time, could be more economically fostered by mass media techniques. Statistical data are included. (SALUS)

654 **Rogo, K.** 1984. *Maternal nutrition in pregnancy and lactation.* Workshop on issues in health and Nutrition development in Kenya, Kisumu, KE, 23-26 July 1984. 10 p. (refs.)

§ In this paper, the author draws attention to the need for research into maternal nutrition in pregnancy and into the relationship between this and pregnancy outcome and lactation. Data are lacking for such analysis in the Kenyan context. (F.M.)

655 **Rohde, J.E.** 1983. *Why the other half dies: the science and politics of child mortality in the Third World.* In Assignment children 61/62. UNICEF, Geneva. CH. pp. 35-68 (tables, figs. 33 refs.) ISSN 0004-5128

§ In this article, the author contends that the high infant mortality rates in the developing countries can be reduced without waiting for economic development. Child mortality is reviewed from the point of view of four dimensions. Epidemiologically, the majority of deaths which occur are due to a limited number of causes. In the technological dimension, affordable technologies exist to reduce deaths resulting from these major causes. In the organizational dimension, a consumer-oriented approach to health permits a higher coverage. Finally, if the political will is there, the roadblocks to a reduction of child mortality can be lifted. (AU modified)

656 **Rolfe, M.** 1982. *Measles immunization in the Zambian Copperbelt: cause for concern.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 76(4), 529-530 (tables, fig., 2 refs.) ISSN 0035-9203

§ During a measles epidemic in two townships in the copperbelt region of Zambia, it was found that out of a total of 316 cases, 126 (39.5%) had previously been immunized. This situation is considered to be due in large part to the loss of vaccine potency through the inability to maintain correct storage temperatures. Recommendations are made to improve this situation. (F.M.)

657 **Romaniuk, A.** 1980. *Increase in natural fertility during the early stages of modernization: evidence from an African case study. Zaire.* Population Studies, 34(2), 293-310 (tables, figs., 38 refs.)

§ Drawing on three independent sources of data (the continuous population registers for 1935-70, the 1955-58 National Demographic Survey and the 1975-76 West Zaire Regional Survey), the author discusses birth and fertility rates in Zaire. Evidence is presented to support the hypothesis that an increase in natural fertility is associated with the "early transition to modernity." The increase in natural fertility, it is argued, is related to the breakdown of customs such as post-natal sexual abstinence and shortened periods of lactation; an increase in "modern" infant feeding practices; and increased access to medical care and better nutrition. Attention is drawn to regional and rural-urban differentials in fertility rates. (F.M.)

658 **Roques, R.** 1979. *Villageoises s'organisent à Guinguineo.* Développement et Santé, 20, 27-28 (carte)

§ L'auteur décrit la façon dont les villageoises du Sahel s'organisent pour s'occuper plus activement de l'état de santé de leurs enfants. Au cours des séances d'éducation sanitaire régulières, elles ont appris à reconnaître et à soigner des maladies infantiles simples et à identifier les cas à soumettre aux services de santé. Au cours de la deuxième phase du programme, elles ont organisé et géré une petite pharmacie coopérative approvisionnée en médicaments essentiels. (SALUS traduit)

659 **Rosenfield, P.L., Golladay, F., Davidson, R.K.** 1984. *The economics of parasitic diseases: research priorities.* Social Science and Medicine, 19(10), 1117-1126 (tables, 17 refs.) En ISSN 0277-9536

§ Parasitic diseases are primarily diseases of poverty. At serious risk are individuals, communities, and countries least able to afford the costs of treatment or prevention. In turn, economic development projects that aim to increase income levels may lead to negative results because the increased transmission of parasitic diseases often results. The UNDP/World Bank/WHO/Special Programme for Research and Training in Tropical Diseases through its Social and Economic Research Scientific Working Group, is promoting research on the economics of parasitic diseases. In an attempt to improve the usefulness and reliability of such studies, conceptual and methodological approaches have been suggested which are reported on here. To improve the research design of these projects, a conceptual framework is proposed which consists of four components: (1) baseline social, cultural, and economic conditions influencing disease transmission; (2) resources already invested in the health system and investments in other related sectors such as agriculture, housing, water supply, and sanitation; (3) health consequences resulting from (1) and (2); and (4) social and economic consequences resulting from (3). A key concern in relation to the framework is to determine the most useful basis for linking results from studies of one component to another so as to analyze more systematically the impacts of disease on individuals and society. Such studies are inherently interdisciplinary and close collaboration of economists with medical scientists and disease control program staff is needed to ensure completeness and reliability of input data and results. (AU abbrev.)

660 **Ross, D.A., Vaughan, J.P.** 1984. *Health interview surveys in developing countries: a methodological review with recommendations for future surveys.* Evaluation and Planning Centre publication no. 4, London School of Hygiene and Tropical Medicine, London, GB. 42 p. (tables, 48 ref.)

§ This review mainly covers cross-sectional health interview surveys in which people were asked for information on their recent morbidity and on their use of preventive and curative health services. The results have differed very widely, both in terms of the estimates of morbidity prevalence and the utilization of health services, reflecting major problems in the methodologies used as well as any differences that might exist between the population groups studied. Any attempt to make a comparison of morbidity and utilization rates is thus thwarted by the lack of standardization, not only of survey methodology but also of methods of analysis and the classification of results. The review highlights the most important methodological issues which must be considered when planning such a survey and lays particular emphasis on examples from surveys carried out in developing countries. There is a noticeable lack of theoretical studies upon which rational choices of methodology can be based and this, combined with a general lack of rigour in the application of the methodology chosen for individual studies, has limited the interpretation and therefore the usefulness of many such surveys carried out to date. The review concludes with a series of specific recommendations for improving the survey methodology, and hence the value, of future health interview surveys in developing countries. (AU)

661 **Rossington, C.E.** 1981. *Environmental aspects of child growth and nutrition: a case study from Ibadan, Nigeria.* GeoJournal, 5(4), 347-356 (tables, map, fig., 30 ref.) ISSN 0343-2521

§ Protein-energy malnutrition, especially among young children, is a major health problem in many developing areas. Its causes are complex and inadequately understood. The paper outlines a pilot survey designed to investigate the impact of economic, demographic, and sociocultural factors on growth and nutrition in a small group of children, aged 1-5 years, from urban poor families living in Ibadan, Nigeria. Field surveys were undertaken between July 1971 and August 1972 using 51 children from the Oje area of the city who formed part of a larger longitudinal study of child growth and development. Records of child growth patterns were compiled from monthly anthropometric measurements and enquiries made into the socioeconomic and demographic status of the sample families. Basic analysis identified periods of growth retardation and seasonal fluctuations in somatic attainments. Multiple correlation analyses attempted to define statistically some of the aspects of the environment which significantly influenced somatic achievements. Relatively low levels of explanation were obtained, emphasizing data deficiencies and the complexity of the nutrition problem, but small groups of economic and demographic causative variables were isolated. (AU)

662 **Rougemont, A., Arnaud, M.A., Balique, H., Ranque, P.L., Maïti, D., Abbaoui, S.** 1979. *Un exemple d'application de l'analyse factorielle des correspondances à la mortalité des enfants et à la prévention, dans une zone rurale de l'Afrique de l'Ouest.* Sozial und Prăventivmedizin, 24, 143-148 (tables, fig., 7 réf.) En, De ISSN 0303-8404

§ Dans la région de Kolokani au Mali, 811 femmes ont répondu à un questionnaire rétrospectif. Les résultats de l'enquête confirment le fait que le taux de mortalité chez les nourrissons et les jeunes enfants est très élevé : plus de 250 décès p. 1000 nourrissons de moins de 1 an et plus de 400 chez les enfants de moins de 6 ans. L'analyse factorielle des correspondances a permis de définir les principales caractéristiques de la mortalité. Par ordre chronologique, les principales causes sont les facteurs obstétriques (jour même de la naissance), le tétanos omilical (entre 1 semaine et 1 mois), la malaria (entre 1 et 12 mois), les pneumopathies (y compris la coqueluche), et les carences nutritives (plus de 1 an). Des mesures préventives applicables à divers niveaux ont été proposées. (F.M. traduit)

663 **Rowland, M.G., McCollum, J.P.** 1977. *Malnutrition and gastroenteritis in the Gambia.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 71(3), 199-203 (tables, 14 refs.)

§ After studying the environment of a Gambian village, the authors conclude that the prevalence of diarrhea among young children is not due to viral infection but to a lack of food and water hygiene, particularly the haphazard feeding of contaminated gruel. They also point out that, until sanitary standards are improved, a diet-based nutrition program cannot be expected to function effectively. (SALUS)

664 **Rowland, M.G., Cole, T.J., Whitehead, R.G.** 1977. *Quantitative study into the role of infection in determining nutritional status in Gambian village children.* British Journal of Nutrition, 37(3), 441-450 (tables, figs., 21 refs.)

§ Any program directed at improving the nutritional status of a community must take local disease patterns as well as dietary inadequacies into account. This study attempts to quantify the contributions of different infections to the growth pattern and nutritional status of Gambian children in the first 3 years of life. The measurements of heights and weights of 152 children aged 6 months to 3 years in Keneba, a rural Gambian village, show that by 1 year the average weight-for-age of the children is only 75% of the international Jelliffe standard. Relating these height and weight measurements to the disease prevalence of nine categories of disease, including upper and lower respiratory tract infections, gastroenteritis, and malaria, shows that there is a highly significant negative relationship between gastroenteritis and both height gain ($p < 0.01$) and weight gain ($p < 0.001$). Malaria, though seasonally more variable, has a lower mean prevalence and shows a highly significant negative relationship to weight gain only ($p < 0.001$). Normal weight gain and even some catch-up growth could be possible after the age of 1 year in the absence of gastroenteritis, according to multiple regression analysis. These findings suggest that assessing nutritional status entirely on anthropometric measurements alone cannot give any indication of the relative importance of dietary and other factors, such as disease patterns, and that height and weight measurements need a supporting investigation into the quantitative role of these other health aspects. (SALUS)

665 **Rowland, M.G., Barrell, R.A., Whitehead, R.G.** 1978. *Bacterial contamination in traditional Gambian weaning foods.* Lancet, 1(8056), 136-138 (tables, figs., 12 refs.)

§ A study of traditional infant weaning foods in a Gambian village showed that nutritionally inadequate gruels were frequently contaminated with bacteria. Regular observations of growth, dietary intake, and health status for each village child from birth revealed that, from the age of 3 months, the body weight of the infants fell behind internationally accepted standards, their intake of breast milk decreased, and they were fed more supplementary foods. Diarrheal disease also appeared at age 3 months and was common by 6 months, so investigations were carried out at various stages during preparation and storage of traditional supplementary gruels to determine when bacterial contamination occurred. Viable counts of five bacteria, including *Staphylococcus aureus* and *Eschericia coli*, showed that bacterial multiplication in gruel during storage in a bowl increased rapidly after initial contamination of both freshly cooked gruel and the empty bowl. Bowls of two commercial milk formula infant foods, when similarly tested, showed that bacterial levels were not much higher than in the gruel, regardless of whether the milk had been prepared with boiled or unboiled water. These findings indicate that microbiological contamination, contrary to expectations, is not confined to commercial baby milks and feeding bottles but is also found in traditional weaning foods and simple containers. Although one sure way of avoiding contamination is to give infants only freshly prepared food, this would be time-consuming for the mother; nutritionists should develop easy, quick, semisolid weaning foods based on local food resources. (SALUS)

666 **Rowland, M.G., Whitehead, R.G.** 1978. *Epidemiology of protein-energy malnutrition in children in a West African village community.* Medical Research Council, Dunn Nutrition Unit, Cambridge, GB. 70 p. (73 refs.)

§ This document presents the main findings and the implications arising from the work of the Protein-Energy Malnutrition Group of the British Medical Research Council, Dunn Nutrition Unit in Keneba, Gambia, 1974-78. It covers growth patterns, malnutrition, dietary intake, child morbidity, nutrition-infection interaction, diarrheal epidemiology, bacteriology of water and food, maternal contribution to child growth, pregnancy and lactation, nutrition intervention during infancy, and diarrheal treatment intervention. Graphs, tables, a bibliography, and general references are included. (SALUS)

667 **Rowland, M.G., Cole, T.J.** 1980. *The effect of early glucose-electrolyte therapy on diarrhoea and growth in rural Gambian village children.* Journal of Tropical Pediatrics, 26(2), 54-57 (tables, 14 refs.) ISSN 0142-6338

§ Oral glucose-electrolyte therapy was given at home by the mother within 24 hours of onset of diarrhea in Gambian children 4.5-24 months of age. In comparisons of control and treated children, therapy reduced the prevalence and duration of diarrheal attacks during the 3 months study period, based on data collected during outpatient clinic visits. Although early use of glucose-electrolyte treatment reduced diarrheal morbidity, the expected reduction of the adverse impact of diarrhea on growth in these children was not observed. Thus, in order to reduce the growth impairment of infants and weanling children with diarrhea, dietary inadequancies must be remedied by other measures of nutritional intervention. (AGRICOLA) *

668 **Rowland, M.G., Paul, A.A., Prentice, A.M., Müller, E.M., Hutton, M., Barrell, R.A., Whitehead, R.G.** 1981. *Seasonality and the growth of infants in a Gambian village.* In Chambers, R., Longhurst, R., Pacey, A., Seasonal dimensions to rural poverty. Francis Pinter, London, GB. 164-175 (tables, graphs, refs.) ISBN 0-86598-057-8

§ Since 1974, a multi-disciplinary team from the Dunn Nutrition Unit, Cambridge, has conducted a longitudinal survey in Keneba village in West Kiang Peninsula in the Gambia. The focus of research was initially children aged 6-36 months, and after 1977, 0-18 months. After 1976, a food supplementation program was introduced to all Keneba children aged 3-12 months. Data were collected on anthropometric measurements, food intake, disease patterns, and environmental hygiene. The data indicate that adverse factors affecting health and nutrition operate mainly in the rainy season. At this time the heaviest milkload of women contributes to a very unfavourable energy balance seen in pregnant and lactating women with a resulting effect on birth weight, milk production, and infant and child mortality. (F.M.)

669 **Rowland, M.G., Alison, A.P., Whitehead, R.G.** 1981. *Lactation and infant nutrition.* British Medical Bulletin, 37(1), 77-82 (table, figs., 81 refs.)

§ The significance of lactation for infant nutrition is examined in the context of both Gambia and the U.K. Different recommendations for length of breastfeeding and problems associated with weaning are considered. In conclusion the authors call for further research into growth standards for the first year of life to be able to give recommendations which may promote optimal child growth in different environments. (F.M.)

670 **Roy, S.G.** 1985. *Demographic data collection in developing countries: problems and issues.* In International population conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. 93-102 (tables, 17 refs.) Fr ISBN 2-87108-009-9 ISSN 0254-5217

§ In this paper, the primary concern has been the identification of errors of coverage and content in the demographic data collection process. A broad range of techniques is examined for improving quality of response data and rendering estimates of errors and clues to bias. Given the various kinds of response errors, an attempt is made to classify them into broad groups. Thus ascertainment errors are considered to consist mainly of recall-bias, border-bias, misreporting of age, and enumeration errors including nonresponse and a few others. Some of these errors are illustrated with reference to survey data from developing countries. The presciptions considered for curing and detecting deficiency in the data are follow-up checks, aggregative checks, verification concurrent with the survey, a built-in system of checking in the survey design, and method of self-validation. A grouping model for age is also discussed. (AU)

671 **Rutabanzibwa-Ngaiza, J., Heggenhougen, K., Walt, G.** 1985. *Women and health: a review of parts of sub-Saharan Africa, with a selected biobibliography.* Publication no. 6, Evaluation and Planning Centre, London School of Hygiene and Tropical Medicine, London, GB. 77 p. (109 refs.) ISSN 0267-5994

§ The objective in this bibliography is to draw together literature from 1960 to the present on the effects of social, economic, and political changes on women's health. The first three sections of the document review the methodology and conceptual framework; discuss women's role as reproducers and utilizers of health services; and examine new approaches to women's health - women as producers. The second part of the document presents selected annotations of references cited. (F.M.)

672 **Rutishauser, I.H.** 1975. *Growth of the preschool child in West Mengo District, Uganda.* In Owor, R., Ongom, V.L., Kirya, B.G., The child in the African environment. Proceedings of the 1974 annual scientific conference of the East African Medical Research Council. East African Literature Bureau, Nairobi, KE. pp. 203-210 (tables, figs., 5 refs.)

§ Longitudinal growth data for a group of Ugandan children during the first 3 years of life are presented and compared with similar information for preschool children in other parts of the world. The use of anthropometric measurements as indicators of nutritional status is discussed with particular reference to the development of hypoalbuminemia and kwashiorkor in Uganda. (AU)

673 **Rutishauser, I.H.** 1975. *The dietary background to protein-energy malnutrition in west Mengo District, Uganda.* In Owor, R., Ongom, V.L., Kirya, B.G., The child in the African environment. Proceedings of the 1974 annual scientific conference of the East African Medical Research Council. East African Literature Bureau, Nairobi, KE. pp. 197-201 (tables, 8 refs.)

§ In an attempt to define more precisely the factors leading to the development of hypoalbuminemia and kwashiorkor, a group of children living in a rural environment near Kampala was studied serially during the first 3 years of life. The aim of the study was to characterize, in as much detail as possible, the children's environment during this time particularly with respect to diet, illness, and socioeconomic conditions; and to monitor the effect of the environment, and of changes in the environment, on the children in terms of growth, morbidity, and nutritional status. This paper presents the dietary information obtained and discusses some of the factors that might have influenced intake of energy and protein in these children, and in consequence their nutritional status. (AU)

674 **Rutstein, S.O.** 1983. *Infant and child mortality: levels, trends and demographic differentials.* World Fertility Survey comparative studies no. 24, International Statistical Institute, Voorburg, NL. 124 p. (tables, figs., 15 refs.)

§ The document presents results on infant and early childhood mortality from 29 national fertility surveys carried out within the World Fertility Survey program. The statistics presented are the probabilities of dying between birth and exact ages 1, 2 and 5, between 1 and 5, and between 2 and 5. Additionally, the mortality rate is divided into its neonatal and postneonatal components. For Africa, data on Kenya, Lesotho, Senegal, and Sudan (north) are considered. In section 1 the sources and quality of the data are discussed. Section 2 presents the methodology for calculating the mortality statistics. The basic tables included in the appendix are described in section 3, and summary findings are given in section 4. (AU modified)

675 **Sala Diakanda, M.** 1986. *Note sur l'application de l'analyse statistique multidemensionnelle à l'EMIS/Bobo-Dioulasso.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 207-221 (table, 8 réf.) IDRC-125f, INSAH no. 5

§ Ce document, basé sur l'enquête de Bobo-Dioulasso, passe brièvement en revue les principales méthodes d'analyse multi-dimensionnelle susceptibles d'etre utilisées en égard au phénomène étudié et aux objectifs poursuivis (recherche des déterminants de la mortalité infantile). Deux types de méthodes d'analyse seront examinés :

les méthodes à caractère descriptif et celles visant à prédire ou à expliquer les valeurs de la variable dépendante en fonction d'un ensemble de variables indépendantes (prédicteurs) jugées cruciales. (AU abrégé)

676 Sanakho, P.A. 1980. *Obtétricie sociale.* Courrier, 30(4), 345-351 (tables, 14 réf.)
§ Le présent document discute des données disponibles sur la mortalité maternelle et infantile dans les zones rurales du Sénégal, ainsi que de ses causes directes et sociales. Il décrit ensuite une approche du problème comportant la sélection prénatale, et les soins d'hygiène périnatale et post-natale assurés par des femmes ayant reçu une formation de base et travaillant dans les maternités traditionnelles sobrement équipées. Aucune mère n'est décédée dans la zone rurale de Khombole depuis la mise en oeuvre de ce service qui doit éventuellement être offert dans les autres régions du Sénégal. (SALUS traduit)

677 Sanders, D. 1982. *Nutrition and the use of food as a weapon in Zimbabwe and Southern Africa.* International Journal of Health Services, 12(2), 201-213 (tables, 37 refs.)
§ This paper examines disease and the importance of nutrition, especially with respect to children, in underdevelooed countries in general and in Zimbabwe in particular. It then discusses short-term interventions initiated in response to the nutrition situation. The context of undernutrition is analyzed, with a consideration of food availability in Zimbabwe both in relation to the recent war and in a longer-term setting. Finally, the international food situation and the use of food as a political weapon in southern Africa and throughout the world is assessed. (AU)

678 Sauter, J.J. 1982. *Why measles makes so many children blind.* Tropical Doctor, 12(4), 219-222 (ill., 10 refs.)
§ Corneal lesions, which often go unnoticed in measles patients (who tend to keep their eyes closed because of photophobia), are a common complication of the disease in malnourished children and, when untreated, can result in blindness. This article discusses the clinical picture in severe measles and recommends massive oral doses of vitamin A to both prevent and treat corneal involvement. Investigations in Kenya and Tanzania revealed that xerophthalmia following measles was the cause of disability in 47-68% of blind children surveyed, while treatment with vitamin A of 420 malnourished children aged 4-60 months admitted to a Dar es Salaam hospital for measles complications (14% already with severe xerophthalmia) was 100% effective in preventing blindness. (SALUS)

679 Sauvain-Dugerdil, C. 1977. *Etude anthropologique des Dogons du Sarnyéré (Mali) : premières données sur la fertilité et la mortalité infantile.* Journal de la Société des Africanistes, 47(1), 95-113 (tables, fig., 12 réf.)
§ Il s'agit d'une étude sur la fécondité et la mortalité infantile menée dans le village relativement isolé de Nemguéré, en 1975-76, auprès de 64 femmes âgées de 23 à 60 ans. L'auteur analyse le taux élevé de mortalité infantile (331 p. 1000) en fonction du sexe et des causes de décès. (F.M. traduit)

680 Schoenmaeckers, R.C. 1984. *The outset of changes in fertility behaviour in Kenya: a birth interval analysis with the use of a relational hazards model. vol. I and II.* Vrije Universiteit, Brussels, BE. 296 p. (tables, figs., 93 refs.) PhD dissertation
§ The main cause of fertility increase as observed throughout Africa is the shortening of birth intervals related to the abandonment of traditional child-spacing practices. A birth interval analysis using a relational hazards model and based on data of the 1978 Kenya Fertility Survey clarifies the impact of modernity (here defined in terms of education) on the birth interval. The results of the analysis also point to the fact that Kenya might be on the eve of another stage in its transition history. (AU abbrev.)

681 Schoepfer, M., Garnier, R., Ropero, P., Traore, M., Gateff, C. 1981. *Indices anthropométriques nutritionnels et ration alimentaire d'une population infantile du sud de la Côte d'Ivoire.* Médecine Tropicale, 41(4), 395-402 (tables, 3 réf.)
§ Une étude portant sur 652 enfants âgés de 1 à 3 ans a été menée dans la région méridionale de la Côte d'Ivoire afin de déterminer les nouveaux paramètres biochimiques ou immunologiques à utiliser pour le diagnostic des carences en protéines et en calories. Des mesures anthropométriques ont été prises et une évaluation quantitative des aliments consommés quotidiennement a été effectuée; à cette fin, les enfants ont été

répartis en trois groupes selon les critères suivants : enfants convenablement nourris, enfants mal nourris ne présentant aucun signe de malnutrition et enfants mal nourris avec symptômes de la malnutrition. Le document comporte cinq tableaux de données tirées de l'étude. En conclusion, il présente brièvement les résultats spécifiques relatifs à l'âge des enfants, aux paramètres anthropométriques et à la consommation d'aliments. (SALUS traduit)

682 **Schultz, T.P.** 1984. *Studying the impact of household economic and community variables on child mortality.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 215-235 (table, fig., 19 refs.)

§ Epidemiological research often measures the direct association between inputs to health and health outcomes. Economic research, on the other hand, generally evaluates how the constraints on peoples' opportunities are associated with child health. The purpose of this paper is to show why the former direct association between health inputs and an individual's health is a statistically based and potentially misleading indicator of the corresponding causal effect. This bias arises because people are essentially different in their health endowments, and their use of health inputs tends to be affected by what they know about their endowments or heterogeneity. A stochastic framework is proposed for studying jointly the biological determinants of health in the presence of such heterogeneity and the economically constrained selection of health inputs. The goal is to estimate, without bias, both the underlying biological and behavioural relationships that will allow one to assess the benefits of technology-based health interventions and the consequences of socioeconomic change that affects the prospects for child survival by influencing people's opportunities and thereby their use of health-related inputs. (AU abbrev.)

683 **Schwartz, A.** 1978. *Fécondite et mortalité avant l'âge de 3 ans chez les krou de Côte d'Ivoire.* In Oppong, C, Adaba, G., Bekombo-Priso, M., Mogey, J., Marriage, fertility and parenthood in West Africa, no. 4, part 2. XVth seminar of the International Sociological Association Committee on Family Research, Lomé, TG, January 1976. Australian National University, Canberra, AU. pp. 453-472 (tables, 2 réf.) En ISBN 0909409 04 8

§ Le taux de mortalité infantile (enfants de moins de 3 ans) est très élevé chez les Krou du Sud-Ouest de la Côte d'Ivoire. L'auteur cherche à vérifier les rapports qui existeraient entre cette mortalité et l'augmentation du nombre de monogames. Données du recensement effectué en 1972 par l'Autorité pour l'Aménagement de la Région du Sud-Ouest; d'une enquête sur les naissances et décès dans le cas d'un échantillon de 3000 personnes dans la même région (1973); et d'une étude longitudinale, rétrospective de la fécondité chez 94 femmes. L'argument selon lequel les enfants de moins de 3 ans issus d'une famille polygamique ont un taux de mortalité plus faible par suite de la prolongation de la période d'allaitement au sein et de la plus longue privation volontaire de relations sexuelles n'est pas valable. Ainsi, les données montrent que 42,4 et 61,5 % des enfants issus de familles monogamiques et polygamiques sont sevrés dès l'âge de 1 an, respectivement. (F.M. traduit)

684 **Scott-Emuakpor, M.M.** 1978. *The role of nutrition education on the factors influencing childhood nutrition in Nigeria.* University Microfilms International, Ann Arbor, US. 167 p. (tables, figs. 88 refs.)

§ A study of the factors that influence malnutrition in Nigeria has been carried out. Emphasis was placed on the possible role of education as well as on childhood malnutrition. This study was conducted in Benin City by means of well-tested questionnaires and interviews with individual subjects. The study group comprised 1056 mothers (15-45 years old) with two or more children, 7 primary schools, 15 secondary schools, 3 nursing schools and 4 government ministries. This investigation was mostly an effort aimed at providing appropriate baseline information to aid the fight against childhood malnutrition in Nigeria. The questionnaires were designed to highlight the role that nutrition education can be made to play in the prevention of undernutrition and diseases of malnutrition in Nigeria. Several hypotheses were tested, the results of which led to the conclusion that the lower the education of the mother, the lower her knowledge of nutrition; the older the mother, the lower her level of nutrition knowledge; the higher the educational level of the father, the more involved and interested he is in the total nutrition of his child. An examination of government nutrition programs revealed that there is a pathetic lack of good programs to serve the masses; the programs that exist lack proper publicity; there is an enormous waste in terms of manpower because of serious overlaps, resulting from poor coordination in the functions of various government agencies involved in nutrition. Thus, the government efforts to combat malnutrition are profoundly handicapped. Policy recommendations are made. (AU abbrev.)

685 **Seetharam, K.S., Abdellatif, H.A.** 1982. *Estimates of mortality for 2 selected villages of Nigeria with some comparisons.* In Mortality trends and differentials in some African and Asian countries. Research monograph series, no. 8, Cairo Demographic Centre, Cairo, EG. pp. 637-664 (tables, 8 refs.)

§ This study uses data from two field surveys carried out in two areas of rural Nigeria, the purpose being to obtain more accurate information on the mortality situation in Nigeria. The first part of the paper estimates infant and child mortality on the basis of children ever born or surviving; the second part uses data on orphanhood to estimate adult mortality. The final part of the paper combines the two sets of estimates using the logit system to obtain overall estimates. Results indicate: high rates of infant and child mortality, about one fifth of the children dying before the age of 2; regional variation in mortality levels. (F.M.) *

686 **Seetharam, K.S., Mekki, M.A.** 1982. *Estimates of mortality for rural Ethiopia 1970.* In Mortality trends and differentials in some African and Asian countries. Research monograph series, no. 8, Cairo Demograhic Centre, Cairo, EG. pp. 665-692 (tables, 8 refs.)

§ The purpose of this study is to estimate levels and rates of mortality in rural Ethiopia using data collected in the second round of a national sample survey. An infant mortality rate of 162 and a child mortality rate of 136 per 1000 are estimated, considerably higher than previous figures. The writers draw attention to rural-urban differentials and sex differentials in mortality. (F.M.) *

687 **Selly-Essis, A.M., Gersky-Damet, G.M., Lhwillier, M., Artus, J.C., Loukon, G.** 1984. *Aspects épidémiologiques des gastro-entérites aiguës infantiles.* Le bulletin de liaison et de documentation, hors série, XVe Conférence technique de l'OCEAC - deuxième partie, Yaoundé, CM, 19-23 Nov. 1984. pp. 31-35

§ Les auteurs examinent les aspects épidémiologiques d'un type de gastroentérite aiguë chez les enfants de moins de 5 ans dans quatre régions différentes de la Côte d'Ivoire. Les résultats sont examinés en tenant compte de la zone écologique, du lieu de résidence (rural ou urbain), du statut socio-économique, de l'âge, du sexe et de la saison.

688 **Sembajwe, I.S.L.** 1974. *An analysis of rural-urban differentials in fertility and child mortality in Tanzania.* Research paper no. 28, Bureau of Resource Assessment and Land Use Planning, University of Dar-es-Salaam, TZ. 35 p. (tables, refs.)

§ The objective in this study was to examine the influence of urbanization on fertility and child mortality and the relationship between mortality and fertility. Data from the 1967 population census are used as a basis for analysis, but as data on mortality were found to be inflated, data on children surviving among those ever born were used for estimating infant and child mortality. Results indicated that urban fertility and child mortality are lower than rural fertility and child mortality. The author suggests that further research is needed to examine the relationship between fertility and child mortality more rigorously. (F.M.)

689 **Sembajwe, I.S.L.** 1981. *The effects of the changing positions of women on family-size and child survival in the United Republic of Tanzania.* In International Labour Organization, Final report on the national seminar on population and development in the United Republic of Tanzania, Arusha, TZ, 17-24 Feb. 1980. United Nations Economic Commission for Africa, Addis Ababa, ET. pp. 117-131 (tables, 6 refs.)

§ The purpose of the paper is to assess the position of Tanzanian women and the extent to which changing socioeconomic factors affect their labour force participation and child-bearing behaviour and performance. The author examines the relationship between women's education and occupation and fertility on the one hand and child mortality on the other. Analysis indicates that high education and high occupational status are inversely related to large family size and high child mortality. (F.M.)

690 Sembajwe, I.S.L. 1981. *Fertility and infant mortality amongst the Yoruba in Western Nigeria.* Changing African Family project series, monograph no. 6, Australian National University Printing Unit, Canberra, AU. (tables, figs., 331 refs.) 0-909409-11-0

§ The purpose of this study was threefold: to examine the relationship between infant and child mortality and maternal education, occupation of father and of mother, religion, type of marriage, and rural or urban residence; to investigate how fertility varies by education, occupation, religion, by marriage (monogamous or polygymous) and by socioeconomic status; to analyze the relationship between infant and child mortality and fertility. Data from the first of three surveys carried out in Nigeria under the Changing African Family Project form the basis for the study. A total of 6066 Yoruba women, aged 15-59 years and resident in greater Ibadan, were interviewed. Results such as the high rates of infant and child mortality (83 per 1000 and 54 per 1000 respectively) and the inverse relationship between child mortality and education or occupational status of the mother are discussed with reference to policy determination. (F.M.)

691 Sembajwe, I.S.L. 1983. *Socio economic factors affecting mortality in rural Tanzania.* Journal of Biosocial Science, 15(4), 487-500 (tables, 26 refs.) ISSN 0021-9320

§ The authors argue that there is need for research and analysis of mortality data at the local level to evaluate the effect of health and development programs; and in rural Tanzania, socioeconomic development is of greater importance in lowering mortality than the provision of health facilities and services, although both are interrelated. Data were drawn from a 25% sample of 11 villages in three rural areas in Tanzania; 964 households and 873 female respondents were surveyed. In addition to data on child mortality, data collected on socioeconomic variables included: cash and food crop production; livestock; income from farming; education; occupation; radio ownership; nutrition; housing; type of water supply; and sanitation. The hypothesis that socioeconomic status is negatively correlated with infant and child mortality is sustained and evidence indicates the weaker relationship of health facilities and services to mortality compared to that of socioeconomic factors. (F.M.)

692 Sénégal, Direction de la statistique, 1981. *Enquête sénégalaise sur la fécondité 1978 : rapport national d'analyse, vol. I and II.* Ministère de l'économie et des finances, Dakar, SN. I 218 p., II 399 p. (tables, fig., réf.)

§ Le volume I présente dans une première partie les différentes phases de réalisation de l'Enquête Sénégalaise sur la Fécondité depuis l'initiation du projet jusqu'à la sortie des tableaux. La deuxième partie donne l'analyse des principaux résultats de l'enquête. Elle inclut les chapitres : caractéristiques socio-démographiques de la population de l'enquête; nuptialité; fécondité cumulée; la mortalité infantile et juvenile; fécondité récente : connaissance et pratique de la contraception; et allaitement. Le volume II présente les tableaux de base sur la fécondité, sur la connaissance et la pratique de la contraception, et sur les facteurs autres que la contraception affectant la fécondité. (AU abrégé)

693 Sénégal, Ministère de l'économie et des finances, 1986. *Bilan de la collecte de l'enquête sur la mortalité infantile pour le Sénégal.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 30-50 (tables) IDRC-MR125f, INSAH no. 5

§ La méthode présentée dans cette article aux fins de *L'enquête sur la mortalité infantile pour le Sénégal* diffère de celle utilisée pour d'autres enquêtes EMIS, en ce qu'elle associe l'enquête rétrospective à passage simple comme complément des enquêtes à passages répétés. On souligne également l'utilité des données contenues dans les registres de l'état civil. Sont enfin analysés les problèmes aux deux types d'enquêtes. (F.M. traduit)

694 Shaffer, R., Najai, D., Kabuleeta, P. 1978. *Environmental health among the Masai of southern Kenya: the effect of water supply changes.* Progress in Water Technology, 11(1/2), 45-48 (tables) ISSN 0306-6746

§ The effect of a piped water supply on the health and habits of the nomadic, pastoral Masai of Kenya was studied with reference to domestic utilization, child morbidity, and child growth. This paper briefly discusses the study findings and limitations and gives some background information on the traditional sanitary environment of the Masai. (SALUS)

695 **Shamebo, D.** 1978. *Fertility and infant mortality rates in Dembia Plain, Gondar.* Ethiopian Medical Journal, 16(3), 95-97 (tables, 6 refs.)

§ A 12-month study was carried out in three towns of Gondar administrative region (Ethiopia) to gather information on births and deaths. Local families were visited every 3 months and data on pregnancy, births, and infant deaths were noted. Figures collected showed a crude birthrate of 35 per 1000 population and an infant mortality of 202 per 1000 live births. These correspond quite well with more careful surveys in similar parts of Ethiopia. Although this study was useful, the best way of recording birth and death rates on a continuous basis remains undetermined. Two tables of statistical data are included. (SALUS)

696 **Shepard, D.S., Sanoh, L., Coffi, E.** 1986. *Cost-effectiveness of the expanded programme on immunization in the Ivory Coast: a preliminary assessment.* Social Science and Medicine, 22(3), 369-377 (tables, 32 refs.) ISSN 0277-9536

§ A preliminary calculation was made of the cost-effectiveness of the measles component of the Expanded Programme on Immunization (EPI) in Côte d'Ivoire. The calculation is based on existing data (program budgets, coverage surveys, counts of vaccinations provided, and subjective estimates) and applies to the first three demonstration and training zones (Abidjan, Abengourou, and Korhogo) with a combined population of 1.75 million people. The average annual cost of the measles program (assumed to be 75% of all EPI costs, including supplies, personnel, and equipment) in these three zones was $527,000 at 1980 prices. Having achieved an average coverage rate of 61%, the cost per vaccinee was moderately high, $12. Yet, vaccinees are a sufficiently small part of the population that the cost per capita is only $0.30. The program is estimated to prevent 38,000 cases of measles and 1100 deaths per year in these three zones. Thus, the cost per measles case averted is $14, and the cost per death averted is $479. This means that the measles component of the EPI program is highly effective in preventing deaths for the sums expended compared to many alternative health programs in developing countries. (AU)

697 **Siddique, A.K., Abengowe, C.V.** 1984. *Protein energy malnutrition in Nigerian children in the savanna belt.* Journal of Tropical Pediatrics, 30(1), 45-47 (tables, 8 refs.) ISSN 0142-6338

§ This paper discusses a survey undertaken in Nigeria to assess the prevalence or protein-energy malnutrition (PEM) in children attending urban and rural clinics. Of the five clinics surveyed, 561 children (ages 6-60 months) were screened for PEM. Mid-upper-arm circumference was used to identify the cases of PEM on the basis of its age-independent characteristics. The data are tabulated in regard to urban-rural distribution, mean mid-upper-arm circumference and distribution of mid-upper-arm circumference below age-specific lower limit. Results indicate a prevalence rate of 27.82% of PEM among the 561 children examined, with the highest age-specific frequency in the age group 13-24 months (17.8%). Of the 561 children, 319 (57%) of them were from urban areas. The result was found to be consistent with the findings from other West African countries. In the absence of a local standard it would be difficult to select an optimal anthropometric value for prevalence study. (POPLINE)

698 **Sierre Leone, Ministry of Health,** 1980. *Infant and early childhood mortality in relation to fertility patterns: report on an ad-hoc survey in greater Freetown, the western area and Makeni in the Northern Province, Sierra Leone, 1973-1975.* Ministry of Health, Freetown, SL, and World Health Organization, Geneva, CH. 182 p. (tables, maps, figs., 102 refs.)

§ Information is presented on the survey methodology and population, housing and environmental conditions, fertility patterns, marriage and fertility, fertility differentials, morbidity among pregnant mothers and in early childhood, infant and child mortality, and child care. Data were collected in 1973-75 on a sample population in a single-round retrospective survey and a multiround prospective survey, the latter at quarterly intervals. Data collection was further supplemented by medical and laboratory follow-ups of the same population at fortnightly intervals and by the matching of records from hospitals and other health facilities and from birth and death registration offices. The survey population consisted of 15,053 persons living in 3229 households, but the size of the population in the survey area changed constantly during the project period. The survey population was relatively young with about 44% below age 15 and 2.9% age 65 or more. Acute respiratory infections and malaria were the two most important health problems in early childhood years. Of 416 reported cases of mortality, 135 were infant deaths and a further 118 were deaths of children in the 1-4 year age group. Deaths of children under 5 years of age counted for 3 out of every 5 deaths. Taking all deaths of children under 5 years, the leading causes in rank order were: measles, diarrheal diseases, mortality associated with perinatal causes, tetanus, and pneumonias. (POPLINE modified)

699 **Singer, B.** 1984. *Mathematical models of infectious diseases: seeking new tools for planning and evaluating control programs.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 347-365 (tables, 38 refs.)

§ The risk factors associated with infant and child mortality are a variety of infectious diseases, nutritional status, availability and quality of local medical facilities, and general socioeconomic conditions. In this paper, the focus is on the infectious disease portion of the overall set of competing risks. The principal question to be addressed is whether mathematical models can inform the process of planning programs of control and eradication. The first section of the paper contains a discussion of both deterministic and stochastic process models of disease transmission. This is followed by discussion of a theoretical and empirical program necessary to guide the specification of interventions. In the final section, an agenda for developing rationally based designs for data collection aimed at estimating age-specific mortality rates, incidence and recovery rates, and basic reproduction rates is proposed. (AU modified)

700 **Singh, S., Owusu, J.Y., Shah, I.H.** 1986. *Demographic patterns in Ghana: evidence from the Ghana Fertility Survey.* International Statistical Institute, Voorburg, NL.

§ After an introductory chapter which gives a background to the general demographic situation in Ghana, the book comprises five substantive sections: Nuptiality patterns in Ghana (Aryee); Levels, trends and differentials in fertility (Shah and Singh); Knowledge and use of contraception (Appiah); Fertility preferences and utilization of family planning services (Owusu); Levels, trends and determinants of infant and child mortality (Pipin). (F.M.) •

701 **Slooff, R., Schulpen, T.W.** 1978. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya: VI: the social and hygienic environment.* Tropical and Geographical Medicine, 30(2), 257-275 (tables, map, ill., 13 refs.)

§ As part of an investigation into determinants of health and disease in children under 5 years old, a household survey on social and hygienic conditions was carried out in the Machakos Project area. This paper deals with the field methodology of the survey, the selection of variables from the material collected, and the differences between the eastern and western parts of the area in respect of the variables selected. (AU modified)

702 **Smedman, L., Lindeberg, A., Jeppsson, O., Zetterstrom, R.** 1983. *Nutritional status and measles: a community study in Guinea-Bissau.* Annals of Tropical Paediatrics, 3(4), 169-176 (tables, figs., 19 refs.) ISSN 0272-4936

§ In an urban settlement area with 6217 inhabitants, 1188 children, 0-71 months of age, were weighed and measured in December 1978. Of those more than 9 months old, 14% were underweight for age. In February 1979, a measles epidemic started in the area and reached its peak in April. At least 236 of the children initially weighed caught the disease and 59 died of measles. Of these, 49 had not been underweight in December 1978. In the age interval 9-35 months there was a tendency for measles deaths to be associated with a relatively low nutritional status. In a geographically defined sub-population of the studied children, mean weight velocity from December to May was lower in those who had measles in the period than in those who did not contract it. The observations confirm the negative impact of measles on nutritional status. On the other hand, they question the supreme importance given to pre-existing malnutrition in explaining the high measles mortality in West African communities. (AU)

703 **Smith, A.H.** 1981. *Social and cultural factors in child mortality among the Temne of Magburaka, Sierra Leone.* University Microfilms International, Ann Arbor, US. 368 p. (tables, maps, 291 refs.)

§ African mortality rates are higher than those of other continents. Within Africa, tropical rates are highest: child mortality may approach 50%, a major health problem. The dearth of studies using the methods of medical and ecological anthropology represents a serious lacuna in the discipline. Interviews, questionnaires, and observations were used to investigate social, cultural, and behavioural factors in child mortality in a Sierra Leone town. Values, beliefs, and customs from pregnancy through weaning were evaluated. Infant mortality is estimated at about 125 per 1000 live births; child mortality at 250 per 1000. Major pathogenic causes of death include malaria, measles, diarrhea, tetanus, and respiratory infections. Multiple infections and repeated episodes are common. Also important was the endogenous mortality of the perinatal period and malnutrition. Although traditional and Islamic beliefs persist, hospitals and clinics were well-attended, overcrowding facilities and overburdening personnel; long waits and medication shortages ensued. Clients tipped to elicit effective service. Visits could prove stressful and fruitless. Preventive maternal and child nutrition is not implemented. The child is breastfed, supplemented with cereal pap, and weaned at about 18 months to rice and scant sauce. Nutritional concepts were similar to Western views, but due to Temne values with respect to patriarchy and toughness, the child is taught to forebear his hunger although his father's is satisfied. (AU)

704 **Sogbanmu, M.O.** 1979. *Perinatal mortality and maternal mortality in General Hospital, Ondo, Nigeria: use of high-risk pregnancy predictive scoring index.* Nigerian Medical Journal, 9(1), 123-127 (tables, fig., 8 refs.)

§ A simple index for screening high-risk pregnancies was introduced in the obstetrical unit of a rural hospital in Nigeria; in spite of this, perinatal and maternal death rates continued to be high, at 52.3 and 7.2 per 1000, respectively, for the year 1973. This paper describes the population served, the scoring index, the procedure for managing high-risk pregnancies, and the outcome of these pregnancies. Electricity cuts, gasoline shortages, and poverty were implicated along with the usual factors contributing to high-risk pregnancies in this large loss of life. (SALUS)

705 **Solimano, G., Winikoff, B., Laukaran, V.H.** 1984. *Health Services as a determinant of infant feeding practices: preliminary findings from the infant feeding study.* In Research Consortium for the Infant Feeding Study, The determinants of infant feeding practices: preliminary results of a four-country study. International programs working paper no. 19, 111th annual meeting of the American Public Health Association, Dallas, US, 13-17 November 1983. Population Council, New York, US. pp. 31-43 (tables, figs.) En

§ This study explores several lines of analysis on the relationship between specific health care practices and infant feeding choices in Bangkok, Nairobi, and Semarang. Place of birth, separation of mother and infant, and receipt of formula samples all appear related to specific feeding decisions. The mechanisms of these relationships and their possible confounding by other socioeconomic variables remain to be explored. (AU modified)

706 **Spalding, E., McCrea, J., Rutishauser, I.H., Parkin, J.M.** 1977. *Study of severely malnourished children in the Gambia.* Journal of Tropical Pediatrics and Environmental Child Health, 23(5), 215-219 (tables, 7 refs.)

§ A study was made of 168 severely malnourished children, aged less than 5 years, who were admitted to the Medical Research Council ward in Fajara, Gambia, from September 1974 to November 1975. There was 23% mortality among the children, with most deaths occurring during the first 3 days after admission. Severe dehydration on admission was a major factor in the high death rate. Most of the children were suffering from marasmus, the predominant form of malnutrition in this area. A very satisfactory rate of weight gain occurred among the survivors who were given a high energy diet and special milk. Findings indicated that inadequate breast-milk production is an important factor in malnutrition. (SALUS)

707 **Stanfield, J.P.** 1975. *The long-term effect of kwashiorkor on physical and mental development.* In Owor, R., Ongom, V.L., Kirya, B.G., The child in the African environment. Proceedings of the 1974 annual scientific conference of the East African Medical Research Council. East African Literature Bureau, Nairobi, KE. pp. 223-231 (tables, 14 refs.)

§ Sixty Baganda children who had suffered from kwashiorkor at the age of 9-27 months were studied. They are now all 11-16 years old. They were divided into three groups based on the ages at which they were admitted: those admitted 9-15 months, those between 16 and 21 months, and those between 22 and 27 months. Each group contained equal numbers of boys and girls. They were individually matched for present age and educational level and with a control group of 20 children of the same age, sex, and educational distribution, from the same environment who were known not to have had an acute episode of malnutrition on the basis of weight and clinic records during the first 3 years of life. All 80 children were clinically examined; anthropometric measurements and bone age were taken and a number of performance and psychomotor tests were carried out. These are briefly described. The conclusions were that the index children were significantly shorter, weighed less, and had a smaller skull circumference than the controls; no significant difference was found in bone age; the performance and psychomotor tests revealed significant differences which could be ascribed in sum to a decreased spatial perpection and spatial ability in the index children. Whether this reduction of spatial sense is a result of minimal brain damage or a deprivation of spatial experience at a crucial age due to the episode of acute malnutrition remains unanswered. (AU)

708 **Steketee, R.W., Mulholland, K.** 1982. *Primary care medicine in the refugee relief program of Eastern Sudan.* Disasters, 6(3), 176-82 (tables, map, 3 refs.) ISSN 0361-3666

§ This report discusses health care services and disease patterns in a refugee settlement of 8000 people in eastern Sudan. Data were collected from camp surveys and clinical records. Findings indicated that nutritional problems among refugee and nonrefugee children were widespread. Eritrean children were the most affected. Measles was the main cause of child mortality. The authors argue that health problems are diseases of poverty and result from inadequate water supplies and sanitation, overcrowding, and malnutrition. (F.M.)

709 **Stephens, A.J.** 1975. *Impact of health care and nutritional education on an urban community in Zambia through the under five clinics.* Journal of Tropical Medicine and Hygiene, 78(5), 97-105 (tables, 7 refs.)

§ To measure the impact of under-fives' clinics on juvenile kwashiorkor, the social backgrounds of 60 surviving kwashiorkor patients in Ndola (Zambia) were compared to those of a control group of 60 children with no overt signs of nutritional deficiency. The factors investigated included family status, socioeconomic conditions, feeding habits, and number of visits to under-fives' clinics. Results showed that kwashiorkor victims tended to be the children of single or unmarried mothers of low-income families who had been in the city for less than a year, to have been taken off the breast at an earlier age (an average of 9 months as compared to 18 for the control group), and to be generally neglected and underfed, often receiving foods of no nutritional value, such as Fanta or Coca Cola, in place of milk. However, despite the availability of under-fives' clinics in Ndola, there was no difference in the number of visits paid to them by the two groups. Because many mothers who could have used under-fives' clinics preferred other facilities that would treat older children as well, the author recommends that under-fives' clinics be replaced by at-risk clinics for children of all ages within the framework of community health centres. (SALUS)

710 **Stephens, P.W.** 1984. *The relationship between the level of household sanitation and child mortality: an examination of Ghanaian data.* African demography working papers no. 10, Population Studies Center, University of Pennsylvania, Philadelphia, US. 34 p. (tables, 27 refs.)

§ This paper examines the relationship between sanitation and the risk of child mortality in Ghana in 1971. In addition to using the presence or absence of toilet and water facilities in the home as an indicator of sanitation, combinations of the types of toilet or water facilities and the education of the mother are used. The results of the analysis show that although better facilities (e.g., piped water, water closets, or private latrines) are often associated with lower child mortality, the advantages of better sanitation facilities are severely limited when mothers are not educated. Providing as little as 1-6 years of formal education results in considerable reductions in child mortality risks even among mothers using poor water and toilet facilities, and the combination of some education and adequate facilities appears to reduce substantially the risk of death. (AU)

711 **Stephens, P.W.** 1984. *Morbidity and mortality from measles in Ngayokheme: a case study of risks and their associated factors.* University of Pennsylvania,

Philadelphia, US. 197 p. (tables, refs.) PhD dissertation

§ This study examines the level and pattern of measles morbidity and mortality among children aged 0-14 years in Ngayokheme - a rural zone of Senegal, West Africa. The relationships between individual-level factors including age, sex, weaning, and vaccination of children and their risks of contracting and dying from measles and other causes are examined. The extent to which reductions in measles incidence influence the overall death rate is also examined. The data for the study are from the Sine-Saloum survey which was conducted in Ngayokheme between 1963 and 1982. The data consist of information on all events occurring to individuals in the study area. Of specific interest to this study are data on measles incidence and the vaccination of children during three mass-immunization programs in 1966, 1969, and 1979. Life table and multivariate methods, including ordinary least squares and logit regressions, are used to analyze the data. Among the most striking results of the study is the finding that the vaccination of children against measles reduces their risks not only of measles incidence and mortality but also of mortality from other causes. Macro-level analyses reinforce this result by showing that a reduction in measles incidence among children aged 0-4 years by 1 per 1000 would result in a reduction in the total death rate in this age group by 1.07 per 1000. The study also shows that female children are more at risk of contracting and dying from measles than males, and children who have been weaned are subject to lower measles risks than children still breastfeeding. (AU abbrev.) *

712 **Stephenson, L.S., Latham, M.C., Crompton, D.W. , Schulpen, T.W., Jansen, A.A.** 1979. *Nutritional status and stool examinations for intestinal parasites in Kenyan preschool children in Machakos district.* East African Medical Journal, 56(1), 1-9 (tables, 16 refs.)

§ Anthropometric, physical, and stool examinations of 375 Kenyan village children aged 6-72 months revealed that some 65% had chronic protein-caloric malnutrition (PCM) and 11% acute PCM; 25% had signs of vitamin A deficiency, anemia, or ariboflavinosis; and 40% had stool parasites, of which the commonest was ascaris (27%). The authors suggest that the reasons for so much malnutrition in a relatively fertile coffee-growing region should be studied. Statistical data are included. (SALUS)

713 **Stephenson, L.S., Crompton, D.W., Latham, M.C. , Schulpen, T.W., Nesheim, M.C.** 1980. *Relationships between ascaris infection and growth of malnourished preschool children in Kenya.* American Journal of Clinical Nutrition, 33(5), 1165-1172 (tables, fig., 33 refs.)

§ To determine the relationship between ascaris infection and the growth of preschool children, 186 children (61 infected, 125 controls) from two villages in the Machakos District (Kenya) underwent anthropometric, clinical, and stool examinations three times at 14-week intervals, receiving the anthelminthic drug levamisole at the second examination. The results are discussed and presented as statistical data. The findings from regression analysis indicate that ascaris infection does contribute to protein-energy malnutrition in young children in developing countries; it is suggested that ascariasis deserves a higher priority in nutrition intervention programs than it is now receiving. (SALUS)

714 **Stephenson, L.S., Latham, M.C., Jansen, A.A.** 1983. *A comparison of growth standards: similarities between NCHS, Harvard, Denver and privileged children.* Cornell international nutrition monograph series no. 12, Cornell University, Ithaca, US. 109 p. (28 refs.)

§ This monograph reports the results of a study of child growth of approximately 1200 children aged 1-18 years in two rural villages in Machakos District, Kenya. To put the growth pattern of these children in perspective, their achieved growth is compared with reference values from NCHS growth charts for height, weight, arm circumference, and skinfold thickness and also growth rates are compared with the Denver height and weight increments. The rural Kenyan data are compared with growth values from three studies on well-to-do children in Kenya. In addition, commonly available sets of growth references (including the Harvard standards and NCHS and WHO growth charts) are compared to determine the degree to which they differ and to discuss the implications of these differences for the use of growth charts. (AU modified)

715 **Sterky, G.** 1975. *Degree of preventiveness in infant mortality.* In Nordberg, O., Phillips, P., Sterky, G., Action for children: towards an optimum child care package in Africa. Dag Hammarskjöld Foundation, Uppsala, SE. pp. 140-151 (tables, figs., refs.)

§ Through a comparison of two different approaches to research whose objective is to make policy recommendations to effect a decrease in infant mortality in Ethiopia, the author argues that an approach focusing on degrees of preventiveness has particular merit. This approach which aims to identify those infant-mortality groups which would repay specific attention from health care activity is related to a context of severely restricted resources for this sector. The setting of intermediate targets for mortality reduction assists, in the author's view, in establishing more realistic health objectives given local conditions. (F.M.)

716 **Sterky, G., Tafari, N., Tunell, R.** 1985. *Breathing and warmth at birth: judging the appropriateness of technology.* Report R2, Swedish Agency for Research Cooperation with Developing Countries, Stockholm, SE. 159 p. (tables, figs., refs.)

§ The papers in this book were prepared for a multidisciplinary seminar held under the auspices of WHO and SAREC in 1984. The objective of the seminar was to identify technology which would be appropriate throughout the world and would lead to a measurable decrease in neonatal mortality. Under Situation analysis, topics include values, views, and neonatal practices (looking specifically at cultural factors); neonatal health care routines; epidemiology of birth asphyxia; and the epidemiologic aspects of hypothermia in the tropics. Under Exploring technology options, papers discuss assessment of the newborn at birth; facilitating breathing; and provision of warmth. The section on Research and development covers methods for judging the appropriateness of health technology; prototypes of research protocols; and evaluation of neonatal health care. (F.M.)

717 **Stetler, H.C., Ayeboua, A., Brink, E.W., Agle, A.N., Staehling, N.W.** 1980. *Nutritional status of preschool children in Togo, 1976-77.* Bulletin of the World Health Organization, 58(6), 889-895 (tables, 18 refs.) Fr

§ Survey teams visited 163 rural villages and 41 urban quarters in Togo and collected data on weight, height, arm circumference, age, pedal edema from 6120 children aged 6-72 months. Hemoglobin levels were determined for one-fifth of the survey children. When 80% of the reference median weight-for-height was used as the cut-off point, the prevalence of acute undernutrition was 2.0%, when 90% of the reference median H-A was used, the prevalence of chronic undernutrition was 19.1%. The prevalence of both types of undernutrition was significantly higher in the northern rural regions, with the lowest prevalence in the urban areas. The prevalence of anemia was 58.6%, again highest in the north. Anthropometric data on socioeconomically privileged preschool children were collected and compared with those for the survey children and the reference population. The privileged group had a nutritional status substantially better than that of the survey children. The survey method was economical in terms of energy, time, and personnel. (AU modified)

718 **Steveny, J.** 1978. *Enquête nutritionnelle dans le district de Koza (Nord-Cameroun); appréciation de l'état nutritionnel des enfants et évaluation d'une action de protection infantile.* Courrier, 28(4), 345-349 (tables, 3 réf.)

§ Une première enquête nutritionnelle basée sur la mesure du périmètre brachial étudie le prévalence de la malnutrition infantile dans le district de Koza et compare entre elles différentes catégories de la population. Sur 3746 enfants mesurés, cette méthode indique 34.3 % de malnutrition sévère et modérée entre 1 et 2 ans et 24.8 % entre 2 et 3 ans. Les filles sont plus tonchées que les garçons et les musulmans plus que les animistes. Une deuxième enquête compare un an plus tard deux secteurs, dont l'un bénéficie de consultations de PMI et l'autre pas. Le taux de malnutrition a nettement baissé dans le premier et reste stationnaire ou légèrement plus important dans le second. Un interrogatoire de toutes les mères sur le nombre d'enfants mis au monde et décédés avant 5 ans confirme d'autres données indiquant presque 50 % de moralité avant 5 ans. (AU)

719 **Strong, M.A.** 1986. *L'utilisation des micro-ordinateurs pour le traitement et l'analyse des enquêtes du type EMIS.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 222-243 IDRC-MR125f, INSAH no. 5

§ Ce document étudie les capacités de la nouvelle génération de micro-ordinateurs, les logiciels disponibles à l'heure actuelle et la meilleure façon d'exploiter ce matériel en recherche démographique. (AU)

720 **Struba, R.J., Isely, R.B.** 1981. *Choice of health status indicators to evaluate water and sanitation projects in north Cameroon: a synthesis of available information.* Water and Sanitation for Health Project, Arlington VA, US. (table, figs., 42 refs.)

§ This paper discusses the desirable qualities of a health status indicator for measuring the health impact of a water and sanitation project on a rural population in Cameroon and examines the feasibility of various direct and indirect measurements of morbidity within the aforementioned context. By reason of their sensitivity to change in environmental health, logistic simplicity, and relatively low cost, the following three indicators were chosen: infant, and possibly child, mortality; infant and child weight-for-height ratios expressed as percents above or below the 60th percentile; and prevalence of dracunculosis (guinea worm infection) in the population at large. (SALUS)

721 **Subulola G.H., Johnson, E.J.** 1977. *Benin City mothers; their beliefs concerning infant feeding and child care.* Tropical and Geographical Medicine, 29(1), 103-108 (12 refs.)

§ One hundred and forty-three mothers residing in a representative area of Benin City were interviewed concerning their beliefs about child care, nutrition, and sources of information related to child care. Although all the mothers believed that breastfeeding was a natural procedure which should start from birth, they were not aware of the importance of breast milk to the baby. Of the mothers, 58.7% would introduce artificial milk within the first month of life, and only 19.6% would give breast milk alone for the first 3 months. Kwashiorkor was not widely believed to be related to protein-caloric deficiency, although some other food-related causes were given. Most of the mothers' information on health was obtained from friends and relatives and from infant welfare clinics. Recommendations are made for improvement of mothers' knowledge in total child care and use of health facilities. (AU abbrev.)

722 **Sukkar, M.Y., Kemm, J.R., Makeen, A.M., Khalid, M.H.** 1979. *Anthropometric survey of children in rural Khartoum, Sudan.* Annals of Human Biology, 6(2), 147-158 (tables, figs., 17 refs.) De, Fr

§ The results of a cross-sectional anthropometric survey of 1254 Sudanese children aged up to 13 years 6 months are discussed. The children were found to be shorter and lighter and to have less subcutaneous fat than British children. Findings are also compared with those from African populations. Comparison with a survey performed in the same village 7 years earlier reveals that the heights and weights of the children have hardly changed, despite a considerable improvement in economic status. The children still have a lower weight-for-height than British and African counterparts. Statistical data are included. (SALUS)

723 **Sulaiman, I.L.** 1984. *Child mortality in Nigeria: levels and socioeconomic differentials.* University of Pennsylvania, Philadelphia, US. 286 p. (tables, refs.) PhD dissertation (microfilms order no. DA8505135)

§ The estimated cumulative probabilities of dying at ages 2, 3, and 5, for southern Nigeria, are 135, 162, and 219 per 1000, respectively. The level of mortality under age 3 is about 4-6% higher in the eastern that in the western states, but above age 4 the estimates for the former are about 7-17% lower than those for the latter. It is estimated that the level of child mortality declined by about 0.97 years of life expectancy at birth per calendar year in the period 1964-66 to 1971-73. Estimates of the effects of factors on child mortality using multivariate regression techniques developed by Trussell and Preston reveal that a 1-year increase in mother's and father's education is associated with a child mortality reduction of about 6.5% and 5.1%, respectively. Second, ethnicity, religion, and household composition have important influences on child mortality. Muslims, adherents of indigenous religions, and Christians of African Protestant churches have higher levels of child mortality than Christians (Christians of mission churches). Third, mother's income is a significant determinant of child mortality with effects that are largely independent of factors controlled and greater than those of husband's income. A $100 increase in mother's and husband's income is associated with a child mortality reduction of 11% and 6%, respectively. Fourth, mother's employment in nonwhite-collar occupations is associated with higher child mortality relative to being economically inactive; controlling for mother's income accentuates the mortality differential between the two groups of women. (AU abbrev.) *

724 **Suliman, G.I., Ostrowski, Z.L., Josse, M.C., Armengaud, A., Semichon, B., Ojaba, E.** 1983. *Socio-economic factors, clinical findings, morbidity and mortality patterns of pregnant women and their children in Jonglei canal area.* In Nutrition and development: proceedings, first international round table conference on nutritional status of pregnant women in the Sudan, Paris, FR, 29 Sept.-1 Oct. 1982. European Association for Studies on Nutrition and Child Development, Paris, FR. pp. 77-89 (tables) Fr

§ The findings of a study of 120 pregnant women in villages along the Sobat River are discussed. The relatively small number of pregnancies per mother was attributed to the prolonged absence of sexual contact during breastfeeding. The mortality rate for children under the age of 5 years was related to the incidence of diarrhea and measles. (F.M.)

725 **Sullivan, J.M., Cochrane, S.H., Kalsbeek, W.D.** 1982. *Procedures for collecting and analyzing mortality data on LSMS.* Living standards measurement study working paper no. 16, World Bank, Washington, DC, US. (tables, 64 refs.)

§ With the objective of providing a measure of the standard of living of a group of people, the authors review the measurement and analysis of infant and child mortality in developing countries. The first section of the paper considers techniques of mortality estimation: direct estimation (single-round surveys, multiround surveys, dual record surveys), indirect estimation with childhood survivorship data and with reference period data. Sample size requirements are also discussed. The second section focuses on the analysis of mortality data: mortality differentials; and multivariate analysis at the level of the individual child and using the proportion of children surviving as the unit of analysis. (F.M.)

726 **Susser, M.** 1983. *Apartheid and the causes of death: disentangling ideology and laws from class and race.* American Journal of Public Health, 73(5), 581-584 (19 refs.) ISSN 0090-036

§ Noting the lack of good data, the author draws on recently published work to attempt to "separate the differences in health patterns owed to the political consequences of apartheid ideology and laws from those owed to constitution and culture on the one side, and to class structure on the other." Attention is drawn to differential racial mortality rates, particularly the extremely high levels (in excess of 50%) of deaths of children below the age of 5 years. These rates are discussed in the context of the ideology of apartheid. (F.M.)

727 **Swantz, M.L., Henricson, U.S., Zalla, M.** 1975. *Socio-economic causes of malnutrition in Moshi District.* Research paper no. 38, Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, Dar es Salaam, TZ. 85 p. (tables, 17 refs.)

§ The purpose of the research in Moshi District, Tanzania, was to examine the relationship between malnutrition and the socioeconomic and physical environment. Particular attention was paid, through the use of participatory research methods and micro-level analysis, to the position of women in Chagga society. The sample comprised 42 malnourished children who had stayed with their mothers in a Nutrition Rehabilitation Unit and 69 neighbour families in two subdivisions in Moshi District, one a low-income area, the other middle income. The conclusion reached was that socioeconomic factors were critical in affecting malnutrition. Policy implications included: the need for an integrated approach to rural planning which addressed health issues in the context of, e.g., agriculture, and the provision of alternative employment opportunities (possibly as cooperatives) directed toward the poorest; giving special attention to the development of female economic activities, given the subordinate position of women in Chagga society; the creation of a women's network, using as a catalyst a female *balozi msaidizi* or assistant leader, for every 10 cells; setting aside a certain amount of land per holding for food crop, as opposed to coffee, production. (F.M.)

728 **Tabutin, D.** 1980. *Mortalité des enfants dans les pays en développement : observation et analyse.* In La mortalité des enfants dans le tiers-monde : orientations et méthodes de recherche. Ordina Editions, Liège, BE. pp. 13-73 (tables, fig., 60 réf.) ISBN 2-87040-017-9

§ L'object de cette communication étant les méthodes d'observation et d'analyse de la mortalité des enfants dans le tiers-monde, l'auteur discute des questions suivantes : quelques rappels de terminologie et d'analyse démographiques classiques; méconnaissance

du phénomène dans les pays en développement; essais de classification des approches possibles; même non exhaustif, l'état civil peut parfois apporter certaines informations; observation à passage unique, observation à passages répétés; quelques grands avantages et quelques grandes limites des enquêtes; le développement des méthodes indirectes; synthèse de la méthodologie; exemples de comparaison de méthodes (Algérie et Zaïre); prudence dans les comparaisons dans l'espace et dans le temps. (AU modifié)

729 **Tabutin, D.** 1984. *Comparison of single and multi-round surveys for measuring mortality in developing countries.* In Vallin, J., Pollard, J.H., Heligman, L., Methodologies for the collection and analysis of mortality data. International Union for the Scientific Study of Population. Ordina Editions, Liège, BE. pp. 11-25 (tables, 31 refs.) Fr ISBN 2-87040-032-2

§ The author discusses the relative merits of single- versus multiround surveys. He points out that although single-round indirect techniques are simple, inexpensive, and adaptable to different types of survey programs, they cannot replace multiround surveys. The advantages of the latter include the more comprehensive coverage of vital events, more accurate estimations of the level and age pattern of mortality, greater specificity of dates and ages, and higher quality data for differential analysis. The conclusion reached is that if it is financially and logistically possible to conduct a multiround survey, this should be preferred, but that the decision should be placed in the context of the data needs of a particular country with a view toward longer term data collection planning. (F.M.)

730 **Tabutin, D.** 1984. *La fécondité et la mortalité dans les recensements africains des 25 dernières années.* Population, 39(2), 295-312 (tables, 6 réf.) En, Es

§ L'article étudie la fréquence et le type de questions concernant la fécondité et la mortalité, prises dans 25 recensements effectués en Afrique de 1956 à maintenant. On constate un accroissement des questions dites indirectes - nombre total d'enfants nés, ou survivants. Mais, depuis 1970, on a aussi accentué les questions directes concernant les naissances et décès au cours des 12 derniers mois. Parfois, et de plus en plus souvent, les deux types de questions sont posés. Bien que nous ne manquions pas de technique pour exploiter les informations ainsi recueillies, nous n'avons guère de résultats méthodologiques, c'est-à-dire d'observations qui permettent de valider ces techniques; les résultats restent donc entachés d'incertitudes dans la majorité des cas. (AU)

731 **Tabutin, D.** 1985. *Les recensements comme base d'estimations de la mortalité des enfants et de la qualité des enquêtes EMIJ.* Document préparé pour la Quatrième réunion technique sur l'enquête sur la mortalité infantile et juvénile, Yaoundé, CM, 19-23 Nov. 1985. 11 p. (table, 9 réf.)

§ La question que l'auteur examine est la suivante : quel peut être l'intérêt ou l'apport des recensements pour les enquêtes, IFORD à passages répétés sur la mortalité des enfants entre 0 et 2 ans? Il discute quelques apports éventuels d'un recensement : l'étude de la couverture des naissances et de la population, autrement dit l'analyse de l'échantillon EMIJ (Enquête sur la mortalité infantile et juvénile); la comparaison des niveaux de mortalité du recensement et de l'enquête; une analyse spécifique du recensement pour la mortalité, complémentaire à l'enquête EMIJ. (AU abrégé)

732 **Tadese, T., Ghiorghis, B.** 1985. *Measles immunity in children before one year of age: a pilot study.* Ethiopian Medical Journal, 23, 17-20 (table, 9 refs.) ISSN 0014-1755

§ In a study in Addis Ababa of the prevalence of immunity to measles in 286 unvaccinated children in the first year of life, using the enzyme-linked immunosorbent assay method, passively acquired maternal antibody was detected in 73% of those below 6 months of age, and in 30% of those between 6 and 12 months. The antibody level declined markedly with increasing age in the latter group. Other studies have shown a similar decline in antibody level to be related to seroconversion rates and susceptibility to measles infection. Policy implications for vaccination programs are discussed. (AU modified)

733 **Taha, S.A.** 1978. *Prevalence and severity of protein-calorie malnutrition in Sudanese children.* Journal of Tropical Pediatrics and Environmental Child Health, 24(5), 203-206 (tables, figs., 26 refs.)

§ In a relatively prosperous farming community in the Sudan, anthropometric measurements for 1291 children aged 6 months to 4 years were recorded. Weight, height, mid-arm circumference, and triceps skinfold thickness showed a tendency to drop below Caucasian standards at about the age of 6 months. Only 47% of the children were well-nourished; of the remainder, 1% had severe, 17% moderate, and 35% mild protein-caloric malnutrition. It is concluded that malnutrition is a grave pediatric problem in the Sudan and the author suggests that a standardized method of assessing it - preferably mid-arm circumference - be adopted for quick and accurate nation-wide data collection. (SALUS)

734 **Taha, S.A.** 1979. *Ecological factors underlying protein-calorie malnutrition in an irrigated area of the Sudan.* Ecology of Food and Nutrition, 7, 293-201 (tables, 38 refs.)

§ A community survey was undertaken in 14 villages in the Gezira farming region of the Sudan to determine the causes of malnutrition which are prevalent in the area. Low expenditure on food, poor housing conditions, and poor hygiene, were found to result from low income. Although the ultimate goal should be improvement of income, quicker results will accrue from tackling the equally important dietary causes that result from ignorance about child feeding. In the Sudan, the decline of breast feeding, the rise in bottle feeding, the lack of supplementary feeding and inequitable intrafamily distribution of food are particularly important causative factors. The low levels of immunization against communicable diseases is a contributory factor that could be corrected immediately. Family size and birth rank were not important in the etiology of malnutrition. (AU)

735 **Taticheff, S., Abdulahi, Y., Haile-Meskal, F.** 1981. *Intestinal parasitic infection in pre-school children in Addis Ababa.* Ethiopian Medical Journal, 19(2), 35-40 (tables, 4 refs.)

§ During April-August 1978, stool specimens of 1059 preschool children from six zones of Addis Ababa (Ethiopia) were examined to determine the most prevalent intestinal parasites. The children were classified into four socioeconomic groups. *Ascaris lumbricoides* was found in 488 cases (46.1%) and *Trichuris trichiura* in 421 (39.8%). Although 72% of the children were infected by one or more of the 12 types of parasites found, there was no marked difference in the prevalence of parasites among the six city zones. The survey results are presented in three tables. In conclusion, the authors stress the need for improvements in environmental sanitation to make possible a reduction in parasite transmission. (SALUS)

736 **Tawiah, E.O.** 1979. *Levels, patterns, trends and differentials in infant and early childhood mortality. Ghana 1960 and 1971.* University Microfilms International, Ann Arbor, US. 240 p. (tables, map, 142 refs.)

§ The present study has addressed itself to three main questions: What are the levels of infant and childhood mortality in Ghana and its nine administrative regions? What is the structure of causes of death in infancy and early childhood in the compulsory registration areas of Ghana? Are there any social inequalities of death? Data are drawn from three sources: cause of death statistics for 1968-73, compiled by the Centre for Health Statistics, Ministry of Health; published tables from the 1960 Post-Enumeration Survey; and the 1971 Supplementary Enquiry. Trussell's multipliers, which incorporate both P1/P2 and P2/P3, were used to estimate levels and differentials in infant and childhood mortality. Feeney's method was employed for the study of trends in infant mortality. A comparative analysis of the relative merits of the multiplying factors of Brass, Sullivan, and Trussell showed that the use of either set will give virtually the same level of early childhood mortality. Analysis of both retrospective and current mortality data indicated that infant and child mortality levels in Ghana were relatively high by contemporary world standards. Out of 1000 children born alive in the mid-1960s, 121 will die in the first year of life; 156 will die in the first 2 years of life, leaving 844 to survive to their second birthday. Child mortality (4q1) was equally high for both males and females, 65 and 58 per 1000 for males and females, respectively. The infant mortality rate ranged from a low level of 81 in greater Accra to an unsually high level of 215 per 1000 live births in the upper region. The Ghanaian data displayed the peculiar feature of tropical African mortality pattern whereby mortality at ages 1-4 is very high in relation to the level under 1 year. (AU abbrev.)

737 **Tawiah, E.O.** 1981. *Some demographic and social differentials in infant and*

early childhood mortality in Ghana. In Population dynamics: fertility and mortality in Africa. Proceedings of the Expert Group meeting on fertility and mortality levels and trends in Africa and their policy implications, Monrovia, LR, 26 Nov.-1 Dec. 1979. Economic Commission for Africa, Addis Ababa, ET. pp. 464-487 (tables, figs., 30 refs.) ST/ECA/SER.A/1

§ The purpose of the paper is to identify the most vulnerable segments of the population in terms of excessive mortality. It attempts to assess the correlation between, on the one hand, demographic and sociocultural factors (age of mother, sex of child, place of residence, maternal education, religion, and type of marriage) and on the other, infant and early childhood mortality. The source of data is the 1971 Supplementary Enquiry, a 5% sample survey of the total population. Trussell's modification of the Brass approach was used to establish mortality differentials. Findings indicated that children born to relatively young or old mothers had lower survivorship than those born to mothers aged 20-24; that boys were more vulnerable than girls; that there was a strong negative correlation between maternal education and infant and child mortality; that rural areas had higher mortality rates than urban areas. It is the adverse conditions in the rural areas (lack of modern medical facilities, safe drinking water, and low level of education of rural women), and not rural residence per se, which are conducive to high mortality. (AU modified)

738 **Teklu, T., Venkatacharya, K.** 1986. *Estimation of infant and child mortality in Africa: recent experiences.* Paper prepared for the World Fertility Survey regional review seminar, Addis Ababa, ET, 17-21 March 1986. 19 p. (tables, figs. 38 refs.)

§ In this paper, the authors discuss recent developments in the measure and estimation of levels, age patterns, trends, and differentials in infant and child mortality. Attention is drawn to the appropriateness of various measures or techniques in specific African contexts. Concluding the paper, the need for micro studies and population laboratories to promote an understanding of infant and child mortality is emphasized. (F.M.)

739 **Test, K.E., Mason, J.B., Haaga, J.G., Quinn, V.J., Rafferty, A.** 1985. *Trends in child nutritional status in rural Kenya 1977-1982.* Child Nutritional Surveillance Program. Cornell University, Ithaca, US . 41 p. (tables, figs., 26 refs.)

§ This paper discusses trends in nutritional status, measured by height-for-age of preschool children, in the rural Kenyan population from 1977 to 1982, and methods for checking the validity of such trends observed by comparing repeated cross-sectional surveys. The trends were considered to represent changes in the nutritional status of the child population, after verification of similar trends across all age and cohort groups, and within land-holding categories. The provinces in the central region of Kenya had lower prevalences of stunting which were relatively static Drought was thought to be the explanation for changes observed in Eastern Province. In provinces in the west of Kenya, nutrition has deteriorated since 1977, possibly related to the fragmentation of land holdings and high population densities in these areas. (AU)

740 **Thiam, B.** 1981. *Quelques considérations sur les conséquences de la sécheresse : cas d'une région d'un pays membre du CILSS.* In Proceedings of the International population conference, Manila, PH, 1981. International Union for the Scientific Study of Population, Liège . BE. pp. 605-623 (tables, fig., 4 réf.) En

§ Le but de cette recherche est d'analyser les données disponibles dans une des zones (le nord du Mali) sérieusement touchées par la sécheresse des années 1970. L'auteur examine le rôle de l'état de carence, de la rougeole, des entérites et maladies diarrhéiques par rapport au nombre exceptionnellement élévé de décès de moins de 1 an, en 1973. (F.M.)

741 **Thiuri, B.N., Gemmert, W., Kinoti, S.** 1984. *Feeding practice and growth of children 0-23 months old in Kilifi District.* In Tukei, P.M., Current research on the gastro-intestinal tract and associated organs in the African environment. Proceedings of the 5th KEMRI/KETRI annual medical scientific conference , Nairobi, KE, 1984. Kenya Medical Research Institute, Nairobi, KE. pp. 327-334 (tables, figs.)

§ The purpose of this study of 914 children under the age of 2 years in Kilifi District was to determine the length of breastfeeding and attitudes toward it; and to assess the relationship between nutritional status measured by anthropometry and feeding practices. Results indicated that, although breastfeeding is practiced by almost all women and is continued by the majority for 2 years, 43% of the women interviewed reported having used a bottle. The authors note that further analysis may indicate this practice is largely confined to urban areas (30% of the sample). Results also indicate that frequency of meals is positively associated with nutritional status up to the age of 14 months. (F.M.)

742 **Timaeus, I.** 1984. *Mortality in Lesotho: a study of levels, trends and differentials based on retrospective survey data.* World Fertility Survey scientific reports, no. 59, International Statistical Institute, Voorburg, NL. 53 p. (tables, figs., 42 refs.)

§ Data gathered in the Lesotho Fertility Survey (LFS) on mortality are far more detailed than those available from other sources. The author indicates two main directions in which the present study advances previous preliminary analysis of LFS data. First, recently developed techniques for locating indirect mortality estimates in time are applied to the data. Not only do these permit the measurement of mortality trends but they also facilitate comparison of data from different sources. The approach is likely to improve the final estimates of mortality that are produced. Second, the study is concerned with mortality differentials. The wealth of information on mortality differentials at young ages that can be obtained from birth histories is examined in detail. (AU modified)

743 **Tomkins, A.** 1981. *Nutritional status and severity of diarrhoea among pre-school children in rural Nigeria.* Lancet, 1(8225), 860-862 (tables, 15 refs.)

§ The influence of preexisting malnutrition on the severity of diarrhea was investigated by assessing attack rate and duration in 343 children aged 6-32 months at the beginning of the rainy season in Malumfashi village, northern Nigeria. There were 1.4 attacks of diarrhea per child during the 3-month rainy season and children spent 10.5% of the time with diarrhea. The frequency was not increased in underweight or stunted children, but those who were wasted experienced 47% more episodes of diarrhea. However, preexisting malnutrition affected the duration of diarrhea, which was 33%, 37%, and 79% longer in underweight, stunted, and wasted children, respectively. (SALUS)

744 **Tomkins, A.M., Drasar, B.S., Bradley, A.K., Williamson, W.A.** 1978. *Water supply and nutritional status in rural northern Nigeria.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 72(3), 239-243 (tables, figs., 18 refs.)

§ A high incidence of protein-energy malnutrition (PEM) was found in a community survey of preschool children in rural northern Nigeria among whom gastroenteritis is common. Wasting (< 80% weight-for-height) was more common (37.9%) among those with scanty, unprotected water supplies than in those with copious protected water (10.2%) whereas the incidence of stunting (< 90% height-for-age) was similar. Severe coliform contamination of all water sources was demonstrable. Even higher numbers of coliforms in foods sampled suggests that other factors related to water supply may be more important than water purity in the genesis of the PEM/gastroenteritis complex. (AU)

745 **Traore, B.** 1980. *Utilisation de la répartition par âge et par sexe des décès de moins d'un an pour l'ajustement du taux de mortalité infantile dans les pays de statistiques imparfaites.* In Institut de Formation et de Recherche Démographique, Actes du colloque de démographie d'Abidjan. Institut de formation et de recherche démographique, Yaoundé, CM. pp. 7-29 (10 réf.)

§ Plusieurs méthodes d'évaluation et d'ajustement ont été conçues pour redresser les données démographiques collectées incertaines et fragmentaires en Afrique. Ces méthodes ne constituent que de palliatifs avant l'amélioration totale de la qualité des recensements et enquêtes démographiques et la mise sur place d'un système complet d'état civil. Ici, l'auteur, propose une méthode qui consiste à établir des relations mathématiques entre le taux de mortalité infantile et deux indices structure par âge des décès infantiles à savoir I(1) proportion des décès d'enfants survenus au cours des 27 premiers jours de la naissance par rapport à l'ensemble des décès de moins d'un an et I(2) proportion des décès d'enfants survenus au cours des 3 premiers mois de naissance par rapport à l'ensemble des décès infantiles. Même cette méthode

n'est pas sans problèmes parmi lesquels l'insuffisance des données de base, estimation incorrecte des indices I(1) et I(2) et la couverture insuffisante de données (de l'état civil). Malgré tous, cette méthode s'est avérée efficace aux cas du Cameroun occidental, du Madagascar et du Rwanda. (PIDSA) *

746 **Traore, B.** 1986. *Sources des données complémentaires pour évaluer les estimations de mortalité des enquêtes EMIS.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 162-177 (tables) IDRC-MR125f, INSAH no. 5

§ La méthodologie des enquêtes sur la mortalité infantile dans le Sahel (EMIS) comporte en général deux phases : la constitution de l'échantillon des nouveau-nés qui a consisté à interviewer les femmes dès leur accouchement; le suivi des nouveau-nés dans les domiciles des mères en sept passages pour la plupart espacés de 4 mois. Sur le plan pratique, la perte des femmes ou de nouveau-nés échantillonnés entre la première phase de l'enquête et les passages successifs tend à compromettre dangereusement la qualité des indices déduits de l'EMIS. Dans l'hypothèse que les déperditions sont des enfants à fort risque de mortalité, on ne saura dire au cas où ces déperditions sont en nombre important, quel sera le degré de signification des quotients évalués. Ce problème est d'autant plus important qu'il est indispensable d'examiner les données d'autres sources en vue d'évaluer la qualité des données de l'EMIS. Parmi ces sources, l'auteur discute les recensements et les enquêtes spécifiques basées sur d'autres méthodologies de collecte. (AU abrégé)

747 **Tripp, R.B.** 1981. *Farmers and traders: some economic determinants of nutritional status in northern Ghana.* Journal of Tropical Pediatrics, 27(1), 15-22 (tables 12 refs.)

§ A study was undertaken in a farming community in northern Ghana to identify the factors associated with better than average child nutrition status. Anthropometric measurements were taken for 187 children and data on the socioeconomic characteristics of their parents gathered. The findings indicated a strong positive correlation between child nutrition and parents', particularly mother's, income and trading activity and also showed the relative lack of importance of agricultural variables to child nutrition status. It is concluded that any increase in a woman's income will have a greater impact on child nutrition than an equivalent increase in a man's income and that development efforts must recognize women's role in the economic as well as the domestic and agricultural spheres. (SALUS)

748 **Trussell, J., Pebley, A.R.** 1984. *The potential impact of changes in fertility on infant, child and maternal mortality.* World Bank staff working paper no. 698, Population and Development Series no. 23, International Bank for Reconstruction Development, Washington, US. 44 p. (tables, figs., 29 refs.) Fr, Es ISBN 0-8213-0453-4

§ In this paper, the authors explore the relation between changes in the timing and quantity of fertility, such as those that might result from an effective family planning program in developing countries, and changes in child and maternal mortality. Specifically, they use the results from recent multivariate studies to estimate the changes in mortality that might result from altering maternal age, birth order, and birth spacing distributions of live births. The results indicate that if childbearing were confined to the prime reproductive ages, 20-34, then infant and child mortality rates would fall by about 5%. Limiting childbearing to ages 20-39 may also reduce the maternal mortality ratio by 11%. Eliminating fourth and higher order births would reduce infant and child mortality by about 8% and the maternal mortality ratio about 4%. Universal adoption of an ideal spacing pattern in which all births subsequent to the first are spaced at least 2 years apart may reduce infant mortality by about 10% and child mortality by about 21%. (AU)

749 **Trussell, J., Menken, J.** 1984. *Estimating levels, trends and determinants of child mortality in countries with poor statistics.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 325-346 (50 refs.)

§ The authors consider, first, methods and data sources for estimating levels and trends of child mortality and, second, to explore how these can be adapted to measure determinants. By concentrating on techniques of analysis, tools are provided for addressing such questions as why mortality has fallen in the past and what policy interventions are

most cost-efficient for reducing mortality in the future. In conclusion, strategies for analyzing specific intervention programs are discussed. (AU modified)

750 **Turner, M.** 1981. *A nutritional survey in Moshaneng, Ngwaketse, Botswana: preliminary findings and observations.* GeoJournal, 5(4), 339-346 (10 refs.) ISSN 0343-2521

§ This paper is a preliminary overview of research carried out in a rural area of Botswana in 1979-80. The main aims of the study were to determine and examine the extent of malnutrition in a rural community in Botswana to arrive at a measure of the nutritional status of the population and to investigate causes of malnutrition in relation to contributory social and economic factors. Among the factors considered were: child care; dietary intake; economic, social, and cultural variables. (AU modified)

751 **Twumasi, P.A., Freund, P.J.** 1986. *Local politicization of primary health care as an instrument for development: a case study of community health workers in Zambia.* Social Science and Medicine, 20(10), 1073-1080 (fig., 25 refs.) ISSN 0277-9536

§ The integrated approach of the primary health care concept has obvious implications for development. In view of Zambia's commitment to primary health care, it is important to evaluate the effectiveness of present institutional frameworks and the problems that may arise in shifting toward community responsibility for the provision of health. It is often assumed that the primary health care approach of working through the community should be free of serious implementation problems. However, experience from community participation projects in a wide variety of fields, carried out in many countries, including Zambia, has shown that failure to account for local institutional arrangements and political interests has hindered success. This article presents the theoretical issues involved in community participation research, reviews relevant literature, and presents a case study of a community health worker (CHW) in Western Province, Zambia. The case study derives from an ongoing UNICEF/Government of Zambia sponsored project which is monitoring and evaluating the impact of child health and nutrition services in rural areas. The study illustrates some of the problems encountered by a CHW because of clashes with local political interests. An alternative model is proposed which, if implemented, can help alleviate or avoid these types of conflicts. (AU).

752 **Uche, C.** 1981. *The contexts of mortality in Nigeria.* Genus, 37(1-2), 123-135 (tables, 17 refs.) Fr, It ISSN 0016-6987

§ This paper discusses the mortality situation in Nigeria since the early twentieth century and identifies regional, residential, sexual, and socioeconomic differentials. The infant mortality rate (IMR) in the 1930s was about 300 per 1000 and the crude death rate (CDR) was 40-50 per 1000. At the end of the 1970s the IMR was approximately 180 per 1000 and the CDR was 23 per 1000. Findings indicate that: mortality in the northern region was higher than the southern states; rural areas have higher mortality rates than urban areas; sex differentials in mortality are insignificant; and infant and child mortality is lower in families of higher socioeconomic status. (AU modified)

753 **Uche, C.** 1985. *The environment of infant and child mortality: a case study of Nigerian villages.* Working paper series, no. WP-85-06, Population Studies and Training Center, Brown University, Providence, US. 52 p. (tables, 48 refs.)

§ This is a report of a survey of 900 mothers under 50 years of age in two Igbo villages in Nigeria, which were identified in an earlier survey as having very high mortality. The present work was undertaken to decipher the factors responsible for the high mortality. The study found that the mothers were aware of the causes of illness and death; they spaced their births using breastfeeding and sexual taboos. Most of them gave and received advice about children's illnesses and the contents of such communication emphasized the use of modern medicines. Only a few patronized traditional healers or believed that children's death was due to recurring birth and death of spirit-child (Ogbanje). Given their positive attitudes toward modern health care, the explanation of the high mortality noticed earlier is neither institutional nor cultural but environmental and technological, that is, lack of clean water, toilet facilities, and modern medicines. The authors conclude by stressing the role of environmental conditions and affordable and effective modern health care as a package in reducing death rates rapidly even without further gains in income per capita. A policy in this direction should include educational programs on the proper use and maintenance of the facilities. (AU)

754 **UN (United Nations).** 1984. *Mortality and health policy: main issues for the 1880s.* Population bulletin no. 16, Department of International Economic and Social Affairs, United Nations, New York, US. pp. 40-61 (graphs. refs.) ST/ESA/SER. N/6

§ The first part of the paper reviews the progress and prospects for mortality reduction in the major regions of the world. The second part considers the interrelationships between mortality and health levels and differentials and development. Part three considers the effects of selective health programs in such areas as immunization, nutrition, maternal and child health, sanitation, environmental control, and life-style interventions, and discusses the basic elements of primary health care strategies. Finally, section four considers obstacles in the implementation of health policies. (AU abbrev.)

755 **UN (United Nations), Department of International Economic and Social Affairs.** 1984. *Mortality and health policy: international conference on population 1984.* Proceedings of the Expert Group on mortality and health policy, Rome, IT, 30 May-3 June 1983. United Nations, New York, US. 320 p. (tables, refs.) ST/ESA/SER.A/91

§ This volume contains the report and selected papers of the Expert Group on Mortality and Health Policy. The purpose behind the meetings was to address issues raised by the interaction of economic, social, and political variables in terms of developing appropriate health policy. Background papers were classified into three sections: mortality trends and determinants; implementation of health policies; and technical cooperation and assistance. (See also ECA 1984). (F.M.)

756 **UN (United Nations), Department of International Economic and Social Affairs.** 1984. *Data bases for mortality measurement: papers of the meeting of the United Nations/World Health Organization working group on data bases for measurement of levels, trends and differentials in mortality. Bangkok, 20-23 October 1981.* Population studies, no.84, United Nations, New York, US. 164p. (tables, figs., refs.) ST/ESA/SER.A/84

§ The papers in this volume are concerned with the measurement of mortality levels, trends, and differentials; they cover approaches to data collection, evaluation, and analysis. The papers in part two discuss the various uses to which mortality data are put and the implications of their uses for the available methods of data collection and analysis. Part three consists of an overview of current data-collection methods and of their strengths and weaknesses. The papers in part four are concerned with the use of vital registration systems for the collection of mortality data and with the evaluation of such data. Part five contains discussions of sample survey approaches to mortality measurement at the macrolevel and covers both data collection and analytical procedures. The papers in part six consider survey approaches for more intensive and specialized mortality studies. The overall focus is on issues in mortality measurement for statistically less developed countries. (Hill 1984)

757 **UN (United Nations), Department of International Economic and Social Affairs.** 1984. *Improving concepts and methods for statistics and indicators on the situation of women.* Studies in methods series F, no. 33, United Nations, New York, US. 70 p. (81 refs.) ST/ESA/STAT/SER.F/33

§ The present report was prepared as part of a joint project of the Statistical Office of the United Nations Secretariat and the International Research and Training Institute for the Advancement of Women. The project is intended to provide guidance to present and potential producers and users of statistics on women at the national, regional, and international levels. One of the major objectives of the project is to review and critically appraise the nature and adequacy of existing international and national practices related to the conceptualization, measurement, coverage, collection, and organization of statistics on women. The explicit purpose of the present report is twofold: first, to take stock to identify gaps in data and problem areas where reconceptualization is critical; and second, to propose long-range goals for improving the quality and relevance of data pertaining to the condition of women by suggesting new measures, adaptations of current practices, and further statistical research and field experimentation. The report does not advocate the creation of a separate body of social knowledge about women. The basic assumption underlying the discussion is that the conventional methodologies used in data collection - because of inadequate conceptualization - have often been unable to capture the particular behavioural context in which women function. The report is organized in six substantive sections: women's position in family formation, families, and households; women, learning, and educational services; women's economic activity and labour force participation; income and income distribution; health status of women; and socioeconomic differentiation and mobility. (AU abbrev.)

758 **UN (United Nations). Department of International Economic and Social Affairs.** 1985. *Socio-economic differentials in child mortality in developing countries.* United Nations, New York, US. 319 p. (tables, 124 refs.) ST/ESA/SER.A/97 ISBN 92-1-151154-2

§ The present study of child mortality differentials is a comparative investigation of data from 15 developing countries. (Ghana, Kenya, Lesotho, Liberia, Sierra Leone, and Sudan were chosen from Africa.) Its major purpose is to establish a solid core of empirical generalizations about the factors associated with child mortality that can be used to provide guidance for policy and program formulation and to extend future research. The variables included in the analyses are: maternal education; paternal education; ethnicity and religion; mother's childhood residence and lifetime migration status; father's occupation; economic activity of the mother; income and wealth; marital status and household structure; characteristics of housing, including toilet and water supply facilities; rural or urban residence; region of residence; health care. Each chapter considers one variable: a review of previous findings and hypotheses regarding the effect of the variable on mortality is given first. Then invariate, bivariate, and multivariate (regression) analyses are discussed. The final chapter gives an overview of the results. (AU modified)

759 **UN (United Nations). Department of International Economic and Social Affairs.** 1986. *Consequences of mortality trends and differentials.* Population studies no. 95, United Nations, New York, US. 191 p. (tables, figs., refs.) ST/ESA/SER.A/95 ISBN 92-1-151149-6

§ This volume is the result of collaboration between the U.N. and WHO. It consists of 17 articles covering a wide range of thought on responses to high mortality and changing mortality, in the biological, cultural, social, and economic spheres of the developing and developed worlds. The articles make clear how mortality change can disrupt the long-held and traditionally established relationships of an individual within the household, and of household within the social, and economic milieu in which it operates. Included are: Effect of changing child mortality on value of children to parents (Okore), The role of mortality decline in theories of social and demographic transition (Caldwell), and Differential mortality decline and its consequences for the status and roles of women (Ware). (AU modified)

760 **UN (United Nations). Population Division.** 1983. *Manual X: indirect techniques for demographic estimation.* Population studies no. 81, United Nations, New York, US. 304 p. (tables, figs., refs.) ST/ESA/SER.A/81

§ This manual provides a detailed and comprehensive guide to techniques appropriate to the analysis of incomplete or defective demographic data. Its purpose is to serve as a didactic tool for those who wish to utilize indirect techniques for demographic estimation. For each technique identified, information is given on: the background of the method and its rationale; the data required; the circumstances in which the technique is most appropriately used; the computational procedures involved; and a detailed example of how the technique is applied. (F.M.)

761 **UNICEF (United Nations Children's Fund).** 1982. *State of the world's children 1982-83.* Oxford University Press, New York, US. 138 p. (map, 11 photos, fig.) ISBN 0 19 828464 0

§ The first part of this report looks at four major breakthroughs against child malnutrition and ill-health in developing countries, namely oral rehydration therapy, universal child immunization, the promotion of breastfeeding, and the mass use of child growth charts. Other important factors affecting child health are social organization, birth spacing, political will, and availability of food and jobs. Part two consists of an account of social organization and community participation in a village in Yatenga, Burkina Faso, during the early rains of 1982, as seen through the eyes of two villagers belonging to the Mossi tribe. A statistical annex is included listing recent U.N. statistics on children and world development. (SALUS) *

762 **UNICEF (United Nations Children's Fund).** 1984. *Ghana: situation analysis of women and children.* UNICEF, Accra, GH. 520 p. (tables, refs.)

§ The objective of this report was to examine the effect on families of economic crisis in Ghana. Part A, the overall setting, includes a discussion of the macro political and economic situation and of cultural practices. In part B, the extent of poverty (regional, seasonal, and among socioeconomic groups) and its roots are considered. Part C consists of six main sections: broad demographic characteristics; infant, child, and maternal mortality, health, and nutrition including a discussion of water and sanitation and policy, programs, and resources of the health sector; an analysis of the education situation, followed by a discussion of the general living conditions for children and the provision of social services for them; child labour; problems of migrant children. In part D of the report, the major problems and their causes are summarized and policy implications, particularly for UNICEF, are drawn. (F.M.)

763 **Union international des sciences de la nutrition, Union internationale des sciences et techniques alimentaires, Université des Nations Unies, Centre de recherches pour le développement international,** 1981. *Etat nutritionnel de la population rural du Sahel: rapport d'un groupe de travail.* Paris FR28-29 avril 1980. CRDI, Ottawa, CA. 96 p. (tables, fig., réf.) IDRC-160f

§ Le mandat du groupe de travail réuni à Paris était : de rassembler et d'examiner de façon critique les données concernant l'alimentation des populations des pays tropicaux semi-arides, tout particulièrement les carences nutritionnelles chroniques et saisonnières observées dans la zone du Sahel, et de formuler des recommandations concernant les priorités de recherche aux organismes nationaux et internationaux intéressés. Ce rapport contient un résumé, recommandations et le rapport de la réunion. Communications individuelles sont les suivantes : aspect quantitatif et qualitatif de l'alimentation; état nutritionnel des femmes enceintes et allaitantes en Gambie; malnutrition infantile en Gambie; profil protéique de l'enfant voltaïque en fonction de l'âge, de l'état nutritionnel et de la pathologie parasitaire; production céréalière, capacité de stockage et variations saisonnières de la dépense énergétique des paysans en Burkina Faso; satisfaction des besoins alimentaires et développement agricole au Mali; enquêtes de consommation alimentaire de l'ORANA; enquêtes sur l'état nutritionnel en zone tropicale sèche, Sahel 1976-1979; méthodologie et résultats. Aussi se référer à Benefice et al. 1981; Chevassus-Agnès et Ndiaye 1981; Dillon et Lajoie 1981; Hulse et Pearson 1981. (F.M.)

764 **United Nations Secretariat,** 1982. *Model life tables for developing countries.* Population studies no. 77, United Nations, New York, US. 351 p. (tables, refs.) ST/ESA/SER.A/77

§ This study presents new model life tables for developing countries. The pioneering effort in the development of model life tables was carried out by the United Nations and resulted in the publication of *Age and sex patterns of mortality: model life tables for under-developed countries.* Approximately a decade later, in 1966, Coale and Demeny at Princeton University published a new set of model life tables based mainly on historical European experience. Those tables have become the most commonly used set of model life tables within the demographic community. Recent evidence indicates that age patterns of mortality in many developing countries differ systematically from those of historical European experience, and the Coale and Demeny tables are therefore not fully suitable to demographic research in developing countries. The present study gives new sets of age-sex patterns of mortality which are based on reliably documented developing country data and hence may be more applicable to demographic analysis within the developing regions. (AU abbrev.)

765 **United Nations Secretariat,** 1984. *Approaches to the collection of mortality data in the context of data needs.* In Data bases for mortality measurement: papers of the meeting of the UN/WHO working group on data bases for measurement of levels, trends and differentials in mortality, Bangkok, 20-23 October 1981. Population Studies, no.84, Department of International Economic and Social Affairs, United

Nations, New York, US. 33-44 (27 refs.) ST/ESA/SER.A/84

§ This chapter provides a summary description of the characteristics, advantages, and disadvantages of the various approaches used in the collection of mortality information. The approaches are divided into three categories: those whereby deaths are continuously recorded, such as civil registration systems; those where deaths are retrospectively reported for a past period, which may or may not be specifically bounded, such as survey questions on deaths in the preceding 12 months or on children dead among those ever born; and those which infer numbers of deaths or rates of death from numbers of living, again either specifically time bounded, such as intercensal survival methods, or unbounded, such as stable or quasi-stable population methods. The basic conclusions are that measurement approaches must be selected with reference to the needs and conditions of the country and that the three collection vehicles - civil registration, census, and survey - must be viewed as complementary rather than competitive, each having its place in a fully developed system. (Hill 1984)

766 Unterhalter, B. 1982. *Inequalities in health and disease: the case of mortality rates for the city of Johannesburg, South Africa, 1910-1979.* International Journal of Health Services, 12(4), 617-636 (tables, figs., 11 refs.) ISSN 0020-7314

§ This article analyzes crude death rates and infant mortality for the different population groups in Johannesburg, South Africa. The analysis is based on official statistics collected by the Department of Health from 1910-79. Over this period, death rates have declined for white, black, colored, and Asian citizens. Nevertheless, the present situation reflects the gross inequalities in the health status of the different population groups in South Africa, a country where disease patterns and access to medical resources are as stratified as any other index of social class. (AU)

767 Uyanga, J. 1980. *Rural-urban differences in child care and breastfeeding behaviour in Southeastern Nigeria.* Social Science and Medicine, 14D(1), 23-30 (tables, 15 refs.) ISSN 0277-9536

§ A model of houschold behaviour is used to test some postulates concerning the effects of market and non-market roles of urban and rural women on child care and breastfeeding. The research is based on data collected from 477 urban and rural households in Calabar, Nigeria during 1976. The paper analyses the determinants of total child care time for pre-school children and explores the allocative effects and intra-household substitutions which took place. This is used to explain causal relationships behind rural-urban variations in breastfeeding behaviour. The results suggest the significance of income, education, job compatability, household demographic structure and point to human capital change as a relevant policy parameter. (AU modified)

768 Uyanga, J. 1980. *The value of children and childbearing in rural southeastern Nigeria.* Rural Africana, 7, 37-53 (tables, 7 refs.)

§ Drawing on data collected by interviewing 600 rural women and men in six villages in southwestern Nigeria, the author examines the values that Nigerian parents attach to their children and how this relates to their reproductive behaviour. He concludes that in the typical rural household costs per child are low although benefits are positive up to a very large family size. The vital role that children play in this economy is likely to create a problem to those involved in family planning programs. (AU modified)

769 Uyanga, J. 1981. *Correlates of population pressure on rural households: a Nigerian case study.* Journal of Comparative Family Studies, 12(2), 219-232 (tables, figs., 24 refs.)

§ With the objective of analyzing correlates of large family size, the author investigates the relationships among mortality, maternal health, child growth, nutritional status, and child care time. He argues that parents and children from relatively small rural households are qualitatively different from those in large households. Data used in the analysis were collected by retrospective questionnaires from a sample of 1822 households in the area of the Annang-Ibibio in southeast Nigeria. Anthropometric measurements were used to assess the nutritional status of children. (F.M.)

770 Uyanga, J. 1981. *The regional correlates of child nutrition in rural Southeastern Nigeria.* GeoJournal, 5(4), 331-338 (tables, map, 33 refs.) ISSN 0343-2521

§ This paper examines some measures of the nutritional status of children and factors influencing this in two contrasting regions in southeast Nigeria: one densely populated and characterized by a peasant cash crop economy; the other, a sparsely populated area of plantations. Feeding and weaning habits, average monthly expenditure on food, and anthropometric measurements are assessed. Regression of nutrient intake with some key regional variables is made. Findings indicate that both in the number of times particular foods are fed to children and the anthropometric measures of nutrition status, the plantation region is superior. The amount of mothers' income, time available for child care, mothers' employment status, cash cropping, age and sex of children, number of children in a family, and migration are the most important variables that distinguish the two regions in terms of child nutrition. (AU modified)

771 **Uyanga, J.** 1982. *Child mortality and contraception usage: a study of rural acceptors in Nigeria.* Rural Africana, 14, 61-68 (tables, 9 refs.)

§ The Calabar project covers 280,000 people in 288 villages in southeast Nigeria. It involves the integration of family planning with maternal and child health to all women who deliver in the project area and all children up to 5 years of age. The study examines the effects of the individual woman's experience of child mortality on the acceptance and continuance of contraceptive usage among the rural housewives in southeast Nigeria. The survey was restricted to a sample of 248 couples who are currently using or have ever used contraceptives in the project locality of Akamkpa and Odukpani. It is established that the continuous acceptance and use of contraceptives will depend on the individual wife's child mortality experience, because it is observed that the higher the child loss, the higher the cumulative fertility and the lower the use of contaceptives. Although causality cannot necessarily be inferred from this relationship, it certainly shows that the availability or even acceptance of contraceptives is only necessary but not sufficient to reduce fertility. (CAB Abstracts)

772 **Vallin, J., Pollard, J.H., Heligman, L.** 1984. *Methodologies for the collection and analysis of mortality data.* Proceedings of a seminar Methodology and data collection in mortality studies, Dakar, SE, 7-10 July 1981. International Union for the Scientific Study of Population, Ordina Editions, Liège, BE. 510 p. (tables, refs.) Fr ISBN 2-87040-032-2

§ This volume represents the proceedings of one of a series of three seminars run by the Scientific Committee on Factors Affecting Mortality and the Length of Life designed to address major current research themes. The 18 solicited papers presented at the seminar, "Methodology and data collection in mortality studies," are grouped according to three themes. Under methodologies for the collection of mortality data, papers address issues of single and multiround surveys; prospective and retrospective surveys; micro-approaches to data collection; methodological issues in developed and developing countries. Under measurement of mortality levels and trends, the papers focus on indirect methods for measuring mortality; different model life tables; conceptual and methodological issues including age, period, and cohort analysis. In the section on analysis of mortality determinants, the use of multivariate statistical techniques and models and methods for analyzing the medical causes of death are discussed. See also Tabutin (1984), Ntitebirageza (1984), and Palloni (1984). (F.M.)

773 **van Balen, H., Mercenier, P.** 1981. *Influence of measles vaccination on survival pattern of 7 to 35-month-old children in Kasongo, Zaire.* Lancet, 1(8223), 764-767 (15 refs.)

§ In a zone (Kasongo, Zaire) with a high measles fatality rate, the risk of dying between the ages of 7 and 35 months for a vaccinated population was compared with that for an unvaccinated control group. Life-table analysis for both groups showed that measles vaccination reduced the risk of dying at the age of maximum exposure to measles. The gain in survival probability, however, tended to diminish afterwards to approach that of the unvaccinated group. Statistical data are included. (SALUS)

774 **van de Walle, E., Heisler, D.** 1980. *The study of mortality in the African context.* African demography working papers, no. 2, Population Studies Center, University of Pennsylvania, Philadelphia, US. 25 p. (graphs, 16 refs.)

§ In the context of the persistence of high mortality levels in Africa and the inadequate collection of demographic data on mortality, the authors discuss problems of data collection (including single-round or multiround surveys and the scale of surveys);

and methods of analysis, focusing particularly on indirect methods (estimation of infant mortality from data on the proportion of children who have died, by age of mother; estimation of adult mortality by the orphanhood method; and the intercensal survival method). In the final section, analysis of data from the 1974 Liberian Census is used to indicate how cross-tabulating parity with mortality by age can give insight into mortality mechanisms. (F.M.)

775 **van de Walle, E.** 1986. *La population observée dans les enquetes EMIS.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 51-65 (tables) IDRC-MR125f, INSAH no. 5

§ La méthodologie des enquêtes à passages répétes est caractérisée par le recours à une comptabilité rigoureuse des personnes et des périodes d'observation. Plutôt que d'etre une panacée, l'enquête à passages répétés impose en fait des conditions de complexité et d'exactitude difficiles à satisfaire en pratique. Comme les conditions du terrain s'écartent souvent de la situation idéale, l'analyste doit tenter d'identifier la nature des biais, de les mesurer et d'en corriger les effets. L'auteur identifie quatre étapes de la méthodologie de l'EMIS où existent des possibilités d'erreur, et propose une série de procédures visant à définir la population soumise aux risques de décès dans chacune des périodes d'observation. (AU abrégé)

776 **van de Walle, E.** 1986. *La mortalité des enfants dans l'enquête mondiale de la fécondité.* In Les actes du séminaire sur le plan d'analyse des enquêtes EMIS. Centre de recherches pour le développement international, Ottawa, CA. pp. 178-188 (tables, 3 réf.) IDRC-MR125f, INSAH no. 5

§ En ce qui concerne les approches rétrospectives et prospectives utilisées pour l'étude des données rassemblées sur la mortalité infantile et juvénile, les auteurs discutent des mérites relatifs de l'approche (rétrospective) empruntée pour l'Enquête mondiale sur la fécondité, d'une part, et de l'utilité des données recueillies pour déterminer la mortalité infantile et juvénile, d'autre part. Ils examinent aussi l'usage que l'on a fait de l'Enquête pour établir les niveaux, tendances et déterminants de la mortalité. (F.M. traduit)

777 **van de Walle, F., van de Walle, E.** 1983. *Issues of data collection and measurement of mortality: the urban multiround survey.* Paper presented at the 52nd annual meeting of the Population Association of America, Pittsburgh, US, 14-16 April 1983. Unpublished. 9 p. (fig.)

§ Focusing on the urban surveys of the Institute for Training and Demographic Research, begun in 1978, the authors discuss problems associated with data collection and mortality measurement of multiround surveys in urban areas. They argue that, because of losses at the different stages of data collection (e.g., the occurrence of births outside the medical facilities where the data are obtained), levels of mortality are probably underestimated. Further, these losses will be overrepresented among the poorer, less educated, and more mobile sectors of the population. The implications of the problems for methodological design are discussed. (F.M.)

778 **van de Walle, F.** 1984. *Birth expectations in Bobo-Dioulasso.* Paper presented at the IUSSP seminar on micro-approaches to demographic research, Canberra, AU, 3-7 September 1984. Unpublished. 21 p. (tables, 3 refs.)

§ The paper discusses the findings of a qualitative survey of 40 Bobo and 34 Mossi women in Bobo Dioulasso. This survey followed a quantitative multiround survey whose purpose was to measure infant and child mortality and to analyze their determinants. A sample of 8000 recorded births was followed. The proximate determinants of birth intervals were also investigated. The objective of the qualitative survey was to check the quality of data from the multiround survey; to elucidate some of the concepts; and to examine attitudes and motivations. The two methodologies are compared. (F.M.)

779 **van den Eerenbeemt, M.L.** 1985. *A demographic profile of the Fulani of central Mali with special emphasis on infant and child mortality.* In Hill, A.G., Population, health and nutrition in the Sahel: issues in the welfare of selected West African communities. Routledge and Kegan Paul, London, GB. pp. 79-103 (tables, figs., refs.) ISBN 07103-00999

§ Using material from the single-round demographic surveys carried out in central Mali in 1981-82, data from the household survey and information from maternal histories are used to determine levels and group differentials of child mortality among the Fulani. The author distinguishes between the Delta Fulani of the Niger flood zone and the Seno-Mango Fulani of the drier Sahelian zone and, within these groups, between the two main social classes, the cattle-owning Fulbe and the largely agricultural Rimaibe. In the household interviews, 6447 Delta Fulani and 5684 Seno Fulani were interviewed; about 50% were women. Maternity histories were collected from 1325 Delta and 951 Seno Fulani women. The author's conclusions indicate that infant and child mortality is lowest for the Fulbe in Seno-Mango and highest for the Rimaibe in the Delta. Differences between the social classes within each area are not as great as those between different ecological zones. In Seno-Mango, about 35% of all live-born children die before the age of 5 years, in the Delta only 50% live to this age. There appear to be no gender differences in infant or child mortality. Short birth intervals are negatively correlated with a child's chances of survival. (F.M.)

780 **Van der Haar, F., Mgeni, S.S., Hamel, B.** 1983. *Simple anthropometry in malnourished children.* East African Medical Journal, 60(3), 171-178 (tables, figs., 12 refs.) ISSN 0012-835x

§ The nutritional status of 81 young Tanzanian children with various forms of malnutrition was assessed by simple anthropometry. The Wellcome classification, based on weight-for-age and the presence or absence of edema, correlated well on a group basis with indices of body wasting and stunting as evident from weight-for-length and length-for-age, respectively. In the groups of severely malnourished children, body wasting was accompanied by low arm circumference and skinfold thickness. At the same level of weight-for-age, edematic children had lower skinfold thickness than malnourished children without edema. Children with lowest reserves of body muscle and fat tissue could be identified by the presence of two or more of the following external characteristics: a weight-for-length below 80%, a length-for-age below 90%, and edema. (AU)

781 **van Dunen, M.B.** 1982. *Médecine traditionelle angolaise et l'enfant.* Hamdard Medicus, 25(1/4), 156-165 (tables)

§ Sur la foi des résultats de l'étude ethno-pharmocognostique menée en 1979 dans la région de Luanda-Kwanza en Angola, où 70 % de la population fait appel à des médecins traditionnels, l'auteur donne un aperçu de la façon dont deux groupes ethniques (les Kimbundu et les Tchokwe) ont recours à la medecine traditionnelle angolaise et discute des méthodes de diagnostic et de traitement de certaines maladies infantiles courantes. L'ouvrage comporte une liste des plantes traditionnelles et leurs noms scientifiques et usuels, dans les différentes langues nationales. Il précise les parties des plantes utilisées pour traiter les maladies de l'intestin. (SALUS traduit)

782 **van Esterik, P., Elliott, T.C.** 1986. *Infant feeding style in urban Kenya.* Ecology of Food and Nutrition, 18, 183-195 (tables, 16 refs.) ISSN 0367-0244

§ The concept of infant feeding style is developed as a self-consistent way of making choices about infant feeding and applied to a study of infant feeding practices of low-income women in Nairobi, Kenya. Personal and shared styles, interaction style, and eating style are examined using both cross-sectional survey data and results of ethnographic fieldwork. The dynamics of status and change are discussed using the concept of feeding "in style." Mothers' different interpretations of breastfeeding, cow's milk, and infant formula are reflected in the statistical analysis of their feeding patterns. The emphasis on breastfeeding as a process, cow's milk as a food, and infant formula as a superfood, explains the infant feeding patterns observed and points to the importance of the concept of infant feeding style for developing culturally appropriate infant feeding policy. (AU)

783 **van Ginneken, J.K., van Vianen, H.A.W.** 1984. *Analysis of demographic data collected in a rural area of Kenya.* Journal of Biosocial Science, 16(4), 463-473 (tables, 18 refs.)

§ In the area studied in the Machakos Project, the total fertility estimate amounts to 7.46, which is somewhat lower than reported elsewhere. Evidence is provided that the low observed infant mortality rate of 49 per 1000 live births is plausible; this rate is in accordance with the relatively low and rapidly declining infant mortality rates found in Kenya. No accurate estimate on adult mortality could be obtained, probably due to serious overstatement of ages in the older age groups. (AU)

784 **van Ginneken, J.K., Muller, A.S., Voorhoeve, A.M., Omondi-Odhiambo** 1984. *Demographic characteristics of a rural area in Kenya in 1974-80.* Journal of Biosocial Science, 16(4), 411-423 (tables, 21 refs.)

§ A longitudinal, epidemiological study was carried out in a rural area of Kenya with a population of about 28,000 between 1974 and 1980. Registration showed that population growth was very high between 1974 and 1978 (4.4% per year) and much lower in 1979 and 1980 (1.1%). Natural increase was nearly as high as in Kenya as a whole (3.7%) in this period. Fertility was somewhat lower than in all Kenya (the crude birthrate was 46 per 1000) while mortality was substantially lower (7 per 1000). Evidence is presented to support the argument that these low mortality rates are genuine. Levels of temporary and permanent migration are high and probably characteristic for many parts of Kenya. The change in population growth in 1979 and 1980 is probably due to changes in economic conditions leading in particular to less in-migration and more out-migration. (AU)

785 **van Ginneken, J.K., Muller, A.S.** 1984. *Maternal and child health in rural Kenya: an epidemiological study.* Croom Helm, London, GB. 373 p. (tables, figs., ill., refs.) ISBN 0-7099-2608-1

§ This book compiles research carried out under the Machakos Project in rural Kenya. The focus of the research concerned the most urgent health problems of the most at-risk sectors of the population (children under the age of 5 years and pregnant and lactating women) with a view to improving maternal and child health. Previously, analysis of the problems had been based on hospital data. This longitudinal study incorporated a fortnightly surveillance system over a period of 8 years from 1971. The methodology was considered replicable elsewhere. A multidisciplinary approach to the research was necessitated by the aim of focusing on the various determinants of morbidity and mortality. Topics are arranged in six substantive sections: study design and methodology; characteristics of the study area including agricultural and economic characteristics, household activities, nutrition, population growth, and socioeconomic change; communicable childhood diseases, particularly measles, pertussis, diarrhea, and schistosomiasis; the nutritional status of mothers and children, including food consumption during pregnancy and lactation and food consumption and growth of preschool children; perinatal, infant, and child mortality, including age-specificity of mortality and the relationship between socioeconomic status and mortality; modern and traditional medical care. For each chapter the methodology for the particular research is identified. The major findings with respect to policy implications include: data on the age-specificity of measles incidence leading to the recommendation that the optimal age for measles vaccination is 9 months; the adequacy of two rather than three pertussis immunizations during infancy; the relationship between schistosomiasis infection and morbidity; the relationship between the nutritional status of pregnant women and antenatal care on one hand and the outcome of pregnancy on the other. (F.M.)

786 **Van Lerberghe, W., Kasongo Project Team** 1982. *Weight, height and arm circumference in 0 to 5 year-old children from Kasongo (Zaire).* Ecology of Food and Nutrition, 12(1), 19-28 (tables, figs., 13 refs.) ISSN 0367-0244

§ In a May 1974 to December 1977 study in Kasongo (Zaire), the weights, heights, and arm circumferences of 7092 children, aged 0-5 years, were determined to permit comparison of the anthropometric characteristics of this population with others and to furnish a basis for the evaluation of individual children in that region. The results are discussed and presented as statistical data. Stunting was commonplace but malnutrition was rare. The children were generally in equilibrium with their environment, suggesting that interventions should be planned on the basis of comparisons with local standards rather than comparisons with a local elite or with international standards. (SALUS)

787 **Van Lerberghe, W., Kasongo Project Team** 1983. *Anthropometric assessment of young children's nutritional status as an indicator of subsequent risk of dying.* Journal of Tropical Pediatrics, 29(2), 69-75 (tables, figs., 8 refs.) ISSN 0142-6338

§ This paper examines the possibility of screening children 6-59 months old for subsequent risk of dying by using various cut-off points of weight-for-age, weight-for-height, arm circumference-for-age, and arm circumference-for-height. The study was conducted in Kasongo, the main town of a rural area in Zaire. The risk of dying for Kasongo under-5s was quite uniformly distributed among groups defined by various cut-off points in the distribution of anthropometric parameters. It was not possible to demonstrate differential mortality risks or to identify a threshold level below which the risk would substantially increase. These results are in contrast with similar community-based studies from India and Bangladesh. (AU abbrev.)

788 **van Sprundel, M., Butera, S., Dindinian, O., Eylenbosch, W., Meheus, A.** 1979. *Etat nutritionnel des enfants de 0 à 5 ans dans la République rwandaise en 1976.* Médecine d'Afrique Noire, 26(8/9), 665-671 (tables, carte, 8 réf.)

§ En 1976, une enquête a été menée au Rwanda afin de déterminer l'état nutritionnel des enfants d'âge pré-scolaire. Au total, 3029 enfants âgés de moins de 5 ans et originaires de 12 zones agricoles différentes ont été examinés. La répartition selon l'âge, le sexe et le groupe racial était assez bien représentative. Il ressort des données recueillies que 33 % des enfants ont un développement linéaire insuffisant et que 3 % d'entre eux souffrent d'une grave carence en protéines et en calories. Les différences qui existent entre les régions sont jugées négligeables. (SALUS traduit)

789 **van Sprundel, M., Dindinian, O., Meheus, A.** 1981. *Poids à la naissance comme indicateur de santé : exemple du Rwanda.* Médecine d'Afrique Noire, 28(2), 93-99 (tables, 21 réf.)

§ Étant en grande partie déterminé par l'état nutritionnel de la femme enceinte, le poids à la naissance est un bon indicateur de l'état nutritionnel de l'ensemble de la population. Le présent document décrit et analyse les données sur les poids à la naissance obtenues à la maternité de Butare, au Rwanda, en 1974. Sur 1641 nouveau-nés, 19,9 % avaient un poids inférieur à 2500 g. Il y avait une corrélation directe entre le poids à la naissance et l'âge et la parité, les plus jeunes mères (âgées de 15 à 19 ans) étant particulièrement touchées. Une variation saisonnière a été observée, appuyant ainsi l'hypothèse selon laquelle poids à la naissance dépend de la disponibilité de protéines et d'aliments riches en calories pendant le cycle agricole. (SALUS traduit)

790 **Van Steenbergen, W.M., Kusin, J.A., Voorhoeve, A.M., Jansen, A.A.J.** *Food intake, feeding habits and nutritional state of the Akamba infant and toddler. Machakos Project studies: agents affecting health of mother and children in a rural area of Kenya.* Tropical and Geographical Medicine, 30(4), 505-522 (tables, figs., ill., 30 refs.)

§ As part of the Machakos Project studies, the feeding patterns and nutritional status of 183 children aged 0-36 months were examined. The intake of breast milk and additional foods was determined by weighing methods for 4 consecutive days in 1975-76. Anthropometric measurements were taken. Findings indicated that protein intake was satisfactory at all ages and that the Akamba baby was, in its physical development, as judged by weight-for-age and height-for-age at over 95%, close to international standards. The authors conclude that practices of feeding and quality of child food in Machakos are good. In view of the decrease in growth rate at 7-18 months, and the occurrence of moderate malnutrition in some 10% of the children, an increase in the quantity of food energy is advised. (AU modified) *

791 **Van Steenbergen, W.M., Kusin, J.A., Onchere, S.R.** 1978. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya: VIII: food resources and eating habits of the Akamba household.* Tropical and Geographical Medicine, 30(3), 393-413 (map, fig., tables, ill., 19 refs.)

§ In two ecologically dissimilar areas of Machakos, Kenya, investigations were carried out on the nutritional status of infants, preschool children, and mothers in two different seasons. This article discusses observations made on factors that influence the pattern of food and food availability, food consumption, and household economy. Higher socioeconomic groups of small farmers consumed staples of maize and beans only partly derived from their own production and spent more money on staples, milk, vegetables, fat, and sugar. Poorer households existed mostly on their own staple produce and had to spend a large part of their total income on other foods. Statistical data are included. (SALUS)

792 **Van Steenbergen, W.M., Kusin, J.A., Van Rens, M.M.** 1981. *Lactation performance of Akamba mothers. Kenya: breast feeding behaviour, breast milk yield and*

composition. Journal of Tropical Pediatrics, 27(3), 155-161 (tables, figs., 33 refs.)

§ Studies of breast milk yield in 85 mothers as measured by the test weighing technique were carried out in the lean season and the post-harvest season of the staple food (maize) in a rural community in Kenya. Breastfeeding was practiced for 18-24 months. The average yield per 24 hours for the seasons combined was 778 ml at 0-1 month and 301 at 18-23 months. Breast milk composition was comparable to values from industrialized countries. The results indicate that the lactation capacity of the Akamba mothers was comparable to that of well-nourished, healthy mothers in the USA and Europe. Statistical data are included. (SALUS)

793 **Vaughan, J.P., Zumrawi, F., Waterlow, J.C., Kirkwood, B.R.** 1981. *An evaluation of dried skimmed milk on children's growth in Khartoum Province, Sudan.* Nutrition Research, 1(2), 243-252 (tables, 10 refs.) ISSN 0271-5317

§ A longitudinal study of 626 Sudanese children, 6-26 months of age, evaluated the effects on growth of a take-home food supplement given to mothers; the supplement consisted of either 1 kg dried skimmed milk (DSM) or beans. Children were followed for 3-6 months. Although average monthly weight gains were similar for the two groups, DSM group children exhibited better height gains. Children who were initially most underweight for their age showed the greatest weight gains; a similar trend for height was not demonstrated. Age and sex had no significant effects on height or weight gains. Some 40% of children in both supplement groups showed improvement in weight-for-age and weight-for-height; 5% showed a decline in these growth parameters. Of children breastfed throughout the study, the DSM group children showed significantly greater weight gains; bean group children did significantly better of those children not breastfed at all. Differences in weight gain were dependent on whether the child was breastfed, but differences in height gain were independent of breastfeeding practices. (AGRICOLA)

794 **Venkatacharya, K., Teklu, T.** 1985. *Estimation of some indices of mortality and fertility from successive censuses and surveys with reference to sub-saharan Africa.* In International population conference, Florence, IT, 5-12 June 1985, vol. 4. International Union for the Scientific Study of Population, Liège, BE. pp. 541-555 (tables, fig., 15 refs.) Fr ISBN 2-87108-009-9 ISSN 0254-5217

§ For many African countries, population censuses are already available at two points in time. In many more countries, data for at least two censuses will become available with the 1980 round of censuses. Though data quality varies between countries, and within countries over time, efforts should be made to devise techniques of estimation that can use accumulated data to estimate levels and trends in mortality and fertility. Applying the techniques of Feeney and Trussell to data on children ever born and children surviving by age of mother, attempts are made to derive trends in mortality for some countries with data at two points of time. Although Kenya provided a promising example, in some countries such as Swaziland and Ghana problems of data consistency and interpretation of results seem to vitiate the exercise. Methods based on time cohorts (Coale and Trussell) and hypothetical cohorts (Zlotnik and Hill) have also been tried. The major problem in deriving trends appears to be differences in error between the two censuses. The authors also attempted to apply generalized stable population equations to two age distributions (from two consecutive censuses) to obtain an estimate of fertility. Starting with initial estimates of q(5) (obtained from methods described above) estimates of birthrates are derived for some selected African countries. The new estimates tend to be on the high side compared with those obtained from conventional stable estimates and from other sources. (AU abbrev.)

795 **Venkatacharya, K.** 1985. *An approach to the study of socio-biological determinants of infant and child morbidity and mortality.* In International population conference, Florence, IT, 5-12 June 1985, vol. 2. International Union for the Scientific Study of Population, Liège, BE. pp. 237-253 (figs., tables, 32 refs.) Fr ISSN 0254-5217

§ To understand the causes underlying the possible stagnation in mortality decline in developing countries it is necessary to study the process of infant and child morbidity and mortality (ICMM) in greater depth than has been attempted so far. Recent research efforts indicate that it is necessary to identify the more proximate determinants from among the many factors and establish the lines of causation between these variables and ICMM, as satisfactorily as possible. Current knowledge indicates that birth weight-for-gestation, maternal and child nutrition, birth practices, and levels of immunization are the important, more proximate variables although their quantitative impacts vary over time and space. Prospective studies with biomedical and social content in the observation of a cohort of births for at least 5 years are ideally suited for such a rigorous study. Statistical techniques like path analysis and stochastic process models can be attempted. (AU abbrev.)

796 **Verkleij, M.T.B., Jansen, A.A.J.** 1982. *Nutrition intervention through a mixed ambulatory-home approach.* In Tukei, P.M., Njogu, A.R., Current medical research in Eastern Africa. Proceedings of the 3rd KEMRI/KETRI annual medical scientific conference, Nairobi, KE, 1982. Kenyan Medical Research Institute, Nairobi, KE. pp. 206-210 (tables, figs., 6 refs.)

§ A nutrition rehabilitation program (part of the Machakos Project), which involved attendance at clinics and home visits by fieldworkers, is evaluated. Data were collected from an intervention group of 51 children aged 6-60 months with a weight-for-age below 65% of the standard. They were compared with a group of 62 children whose weight-for-age was between 65% and 75%. The authors conclude that the results of the study were unimpressive, although the mixed ambulatory-home approach did result in some catch-up, which was sustained after the program. The main difficulties noted were the pervasive effect of poverty in the families concerned and the lack of motivation in some families. Recommendations include greater community involvement in the solution of problems of malnutrition. (F.M.)

797 **Vimard, P.** 1981. *The decrease in infant mortality on the Dayes Plateau (South-west Togoland) from 1930 to 1976.* In African historical demography, vol. 2. Proceedings of a seminar held in the Centre of African Studies, University of Edinburgh, Edinburgh, GB, 24-25 April 1981. Centre of African Studies, University of Edinburgh, Edinburgh, GB. pp. 761-776 (tables, 17 refs.)

§ The decline in infant mortality that occurred in the Dayes Plateau, a rural region of southwest Togo between 1930 and 1976 is analyzed. The data, collected in 1976, are from a retrospective survey of 4864 live births from a random sample of 1264 women aged 14-59 years. A marked decline in infant mortality and, in particular, neonatal mortality is noted in the period under review up to 1965. Since then, there has been a decrease in the rate of decline. Comparisons are made with infant mortality declines in urban Dakar and other areas. (POPLINE modified)

798 **Vimard, P.** 1984. *Tendances et facteurs de la mortalité dans l'enfance sur le plateau de Dayes (Sud-Ouest Togo) (1930-1976).* Cahiers de l'ORSTOM - Série Sciences Humaines, 20(2), 185-206 (tables, fig., 36 réf.) En, Es ISSN 0008-0403

§ L'observation rétrospective de la mortalité dans l'enfance sur le plateau de Dayes (sud-ouest du Togo) permet de mesurer l'importance de la baisse de 1930 à 1976. On passe d'un niveau relativement élevé, 320 p. 1000 (1930-49), à un stade très inférieur : 102 p. 1000 (1970-74), remarquable pour une région rurale d'Afrique de l'Ouest et proche de ceux rencontrés dans les villes de la côte atlantique (Abidjan, Accra, Dakar). Le niveau atteint reste cependant relativement élevé et la stagnation relative des quotients depuis 1965 montre que les améliorations ultérieures peuvent être plus difficiles à obtenir. La différence de mortalité dans l'enfance selon le groupe ethnique, niveau plus faible chez les Ewe que chez les Kabyé, renvoie en définitive aux conditions culturelles, sociales et économiques qui favorisent, pour une population seulement, les Ewe, l'accès aux infrastructures sanitaire et scolaire développées avec l'économie de plantation. (AU)

799 **Vis, H.L., Bossuyt, M., Hennart, P., Caraël, M.** 1975. *The health of mother and child in rural central Africa.* Studies in Family Planning, 6(12), 437-441 (figs., 17 refs.)

§ A review of the habits and health status of women and children in Burundi, Rwanda, Zaire (Kivu province) has shown the complex relationship between malnutrition, breastfeeding, and birth spacing. Background for the review came from a study of pregnant women, nursing mothers, infants, and young children in the area. Information was collected in two maternal child health centres and was planned to determine their health status and eating patterns. Findings were that the women were suffering from general endemic malnutrition, which caused a low level of milk production but which had beneficial side effects of delayed puberty and prolonged postpartum amenorrhea. These are two natural means of birth spacing, the latter being encouraged by the custom of breastfeeding infants for 2 years and longer. Although the composition of breast milk was found to be similar to that produced by mothers in industrialized countries, its insufficient quantity meant that supplements, and thus parasites, were introduced into children's diets as early as age 3 months. From these findings, it is clear that maternal nutrition should be improved so that mothers can produce more milk and better withstand the pressures of childbearing and agricultural work. Improvements in maternal nutrition alone, however, would shorten amenorrhea after childbirth and thus produce higher birthrates, earlier weaning, and depleted maternal energy. Efforts, therefore, should be devoted to improving maternal nutrition but also to introducing other means of ensuring birth spacing. (SALUS)

800 Vock, J. 1985. *Demographic theories and women's reproductive labour.* Paper presented at South-South, the joint meeting of CALACS and CAAS, McGill University, Montreal, CA, 15-17 May 1985. Unpublished. 28 p. (55 refs.)

§ The author discusses the relevance of feminist theory to demographic theory and vice versa. With reference to work by Marxist demographers (Gregory and Piché) and a demographic transition theorist (Caldwell), she focuses on problems that arise when the conceptualization of social relations of reproduction omits gender as a structural variable. She argues that the failure to consider the interrelationships between patriarchy, mode of production, and fertility leads to incomplete or distorted conclusions. Although discussion is related primarily to issues of fertility, the arguments raised have implications for the analysis of mortality. (F.M.)

801 Voorhoeve, A.M., Muller, A.S., Schulpen, T.W., 'tMannetje, W., Van Rens, M.M. 1978. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya. IV. The epidemiology of pertussis.* Tropical and Geographical Medicine, 30, 125-139 (tables, figs., 19 refs.)

§ During 3 years of pertussis surveillance, April 1974 to March 1977, among a rural highland population of 24,000 in Kenya, 953 cases have been observed with a peak of 218 cases from December 1974 to January 1975. The attack rate was highest during the fourth year of life, 16.7%. For the age group 0-6 years it was 12.9%. Almost 90% of the cases occurred in children 6 years of age and younger. The median age was 3.5 years, the age range 1 month to 14 years. Girls were significantly more affected than boys. The overall case fatality rate was 1.2%, among children under 1 year of age it was 3.2%. In the age group 0-15 years, pertussis accounted for 4.1% of all deaths. The estimated death rate per 100,000 total population was 47. A mass vaccination program is recommended. (AU modified)

802 Voorhoeve, A.M., Muller, A.S., Woigo, H.O. 1979. *Machakos Project studies: agents affecting health of mother and child in a rural area of Kenya. XVI. The outcome of pregnancy.* Tropical and Geographical Medicine, 31(4), 607-627 (tables, figs., ill., 23 refs.)

§ The outcome of pregnancy of all women belonging to the study population of the Machakos Project who delivered during 1975 and 1976 is presented. The birthrate was 43.0 per 1000 population per year, the fertility rate was 235 per 1000 women 15-44 years of age per year. Unexpectedly low mortality rates were found; stillbirths, neonatal, and infant death rates were respectively 29.8 per 1000 total births and 22.5 and 50.0 per 1000 live births. One maternal death occurred among the 2223 deliveries. Maternal age of less than 25 and over 34 years, a history of previous perinatal death, and breech delivery were associated with higher perinatal mortality. Parity, marital status, birth interval, and maternal height were not associated with a difference in outcome of pregnancy. The stillbirth rate among the children born in hospital (26.4%) was 4.4% compared with 2.4% among the children born at home, neonatal, and infant death rates were the same. Half of all perinatal deaths were caused by either prematurity or birth trauma, 75% of all infant deaths after the first week of life were caused by infections. (AU)

803 Voorhoeve, A.M., Nordbeck, H.J., Anderson, J., van Ginneken, J.K. 1983. *Perinatal mortality and the high risk* *approach in antenatal screening in a rural area in Kenya.* East African Medical Journal, 60(9), 626-636 (tables, figs., 11 refs.) ISSN 0012-835x

§ Perinatal deaths which occurred amongst the population of Machakos District in Kenya during a 4-year period were analyzed in relation to antenatally recognizable risk factors. A perinatal mortality rate of 46.4 per 1000 total births was found. By antenatal screening and isolating 13% of the pregnant women, the causes of the perinatal deaths could have been identified in 41%. Timely obstetric intervention among these women might have lowered the perinatal mortality by about 10 per 1000 total births. (AU)

804 **Waife, R.S., Burkhart, M.C.** 1981. *The nonphysician and family health in sub-Saharan Africa: proceedings of a conference.* Proceedings of a conference, Freetown, SL, 1-4 September 1980. The Pathfinder Fund, New York, US. 141 p. (tables, maps, figs., refs.)

§ The purpose of the conference was to discuss the obstacles that inhibit nonphysicians (health professionals including nurses, midwives, and traditional healers) from fulfilling their potential role in health care delivery and to recommend solutions to these problems. Papers that addressed the following topics were included: the advantages of nonphysicians; roles of nonphysicians; training for nonphysicians; and policy change. (F.M.)

805 **Walther, F.J.** 1979. *Health status and care of children under one year of age attending the Kibara mobile child health clinics in Tanzania.* East African Medical Journal, 56(10), 475-484 (tables, 21 refs.)

§ Child health care services experience a decreasing attendance rate with increasing age of the children. Considering the available resources in the developing world and the large number of children up to 5 years, emphasis on care of children under 12 (or 18) months of age may be a possibility to improve the health care and health status of this group who are suffering from a much higher mortality rate than 1-4 year old children. All 1120 infants, attending three mobile maternal and child health (MCH) clinics of the Kibara Hospital in Tanzania, were followed during their first year of life with regard to coverage, attendance pattern, morbidity, nutritional status, mortality, immunization status, and costs of the mobile approach. The results of the study are interpreted by considering infant health status (mortality and nutritional status) and infant health care indicators (coverage of the infant population and infancy immunizations). It is concluded that, in a MCH program, infants stand centrally among the under-fives and that increased care of this group will augment the overall effects of child health care. Mobile programs can only be transitional due to the high costs involved. (AU)

806 **Waltisperger, D.** 1978. *Mortality project: annotated bibliography on the sources of demographic data. Volume I. Africa. Near East.* Organization for Economic Cooperation and Development, Paris, FR. 313 p.

§ For each country in Africa, censuses, national and regional surveys, vital registration data, and data from other studies are presented in that order. For each entry the following information is given: a methodological summary, which refers to the scope of the survey, sample size, type of survey, location (urban or rural), and the dates; data available, classified according to whether it is structural data or vital statistics; and a discussion of the available data. (F.M.)

807 **Wang'ombe, J.K.** 1984. *Economic evaluation in primary health care: the case of western Kenya community based health care project.* Social Science and Medicine, 18(5), 375-386 (tables, figs., 19 refs.) ISSN 0277-9536

§ This paper describes the methodology and presents preliminary results of an economic appraisal of a community based health care project in Kenya. Community health workers, trained for 12 weeks and deployed in two locations in Kenya's Western Province, act as first contact providers of basic health care and promoters of selected health, sanitation, and nutrition practices. A cost-benefit analysis has been undertaken using the willingness-to-pay approach to compare the costs of the project and its benefits. The benefits are in the form of more easily accessible basic health care and are measured as consumer surplus accruing to the community. Gain in consumer surplus is consequent on the fall of average user costs and rise in utilization of the project-established points of first contact with primary health care. The results are strongly in favour of decentralization of primary health care on similar lines in the rest of the country. (AU abbrev.)

808 **Ware, H.** 1984. *Effects of maternal education, women's roles and child care on child mortality.* In Mosley, W.H., Chen, L.C., Child survival: strategies for research. Population and Development Review, 10 (supplement), 191-214 (101 ref.)

§ Observing that the relationship between maternal education and level of child mortality has been relatively well documented, the author suggests that analysis of a relationship between women's roles and child mortality is more difficult to conduct. Alternative approaches to this task are discussed in the paper and the importance of an in-depth knowledge of the culture involved is emphasized. The following issues are addressed: measurement of child mortality and education; the relationship between child mortality and women's power, the interaction between education and income; cultural factors; infant feeding practices; measurement of women's different roles; the relationship between maternal employment and child mortality; sex preference and differentials in care; household surveys, time budgets, and standard of living. In conclusion, components of an ideal survey to collect data on the relationship between women's roles and child mortality are outlined. (F.M.)

809 **Warrack-Goldman, H., Brown, B.H., Binkin, N.J.** 1986. *Nutritional status of Mauritanian children during a drought emergency.* Ecology of Food and Nutrition, 18, 221-229 (tables, 13 refs.) ISSN 0367-0144

§ Nutritional surveys were conducted in three regions of Mauritania, between September and November 1983, to assess the impact of a severe drought and to determine priorities for relief assistance. Survey sites and children were chosen at random using established Centers for Disease Control survey methodology. A total of 1498 children between the ages of 6 months and 5 years were weighed, measured, and examined for xerophthalmia and scurvy. Information on age, sex, diarrhea, measles immunization, diet, and food aid was collected for each child. Levels of acute malnutrition (< 80% of median weight-for-height) ranged from 8.2 to 17.2% in the three regions, and both xerophthalmia and scurvy were seen. The children between 1 and 3 years of age had the highest levels of malnutrition. Food aid deliveries were irregular and inadequate in the two regions with the highest rates of malnutrition. Implications for targeting and choice of relief efforts are discussed. (AU)

810 **Waterston, T.** 1982. *What causes kwashiorkor in the older child?* Journal of Tropical Pediatrics, 28(3), 132-134 (tables, 11 refs.) ISSN 0142-6338

§ In a series of 43 kwashiorkor admissions in Kumasi, Ghana, more than 25% were aged over 4 years. Analysis of a selection from this group showed that a significantly higher proportion of older children were looked after by a substitute mother and this has implications for therapy. Social disruption is likely to be the major etiological factor in the background of older children with kwashiorkor. (AU)

811 **Waterston, T., Nhembe, M.** 1984. *Causes of malnutrition in Harare - a hospital case-control study.* Central African Journal of Medicine, 30(6), 97-102 (tables, 15 refs.) ISSN 0008-9176

§ A case-control study was carried out in 1982 to determine the causes of malnutrition in a hospital population. In all, 49 sequential admissions suffering from malnutrition and 38 controls were questioned on family, social, and environmental factors. The major causes that emerged were poverty, substitute parenting, poor access to health care facilities, and late introduction of solids in the diet. (AU)

812 **Watkinson, M., Lloyd-Evans, N., Watkinson, A.M.** 1980. *Use of oral glucose electrolyte solution prepared with untreated well water in acute non-specific childhood diarrhoea.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 74(5), 657-662 (tables, 31 refs.)

§ In a study carried out from July to October 1979 in the rural Gambian village of Kantonkunda, involving 48 children aged 3 months to 4 years with acute diarrhea, the effects of two oral glucose-electrolyte solutions were compared: one prepared with untreated, bacteriologically contaminated well-water and the other prepared with clean drinking water. The bacteriological methods and study results are described using two tables and one graph. It was found that, because potentially pathogenic organisms occurred in much greater quantities in local infant weaning foods (the major cause of diarrhea) than in the well-water solution, the latter was still an effective diarrhea treatment. The need for further and longer trials of this nature is stressed. (SALUS)

813 **Watts, T., Chintu, C.** 1982. *Child deaths in Lusaka - June 1980 to May 1981.* East African Medical Journal, 59(10), 645-51 (tables, figs., 3 refs.) ISSN 0012-835x

§ Based on hospital mortuary records and the pediatric police book, the authors attempt to determine child mortality rates in Lusaka. It is estimated that the perinatal mortality rate is 69.4 per 1000 total births. The infant mortality rate is 83 per 1000 live births and the death rate from 12 to 23 months is 43 per 1000. The research indicated that mortality has been rising since June 1980 without any marked seasonal variation. The discrepancies in different sources of data are discussed and recommendations are made to improve birth and death registration. (AU modified)

814 **Watts, T., Harris, R.R.** 1982. *Case-control study of stillbirths at a teaching hospital in Zambia, 1979-80: antenatal factors.* Bulletin of the World Health Organization, 60(6), 971-979 (tables, fig., 16 refs.) Fr ISSN 0043-9686

§ A total of 266 mothers of stillborn babies (cases) and 266 mothers of live-born babies (controls), matched for parity, were studied at the University Teaching Hospital in Lusaka, Zambia, in an attempt to find the causes of the stillbirths. Altogether, 16% of mothers in the former group were aged more than 35 years, compared with 9% in the latter; in addition, 16% of cases had a history of perinatal death, compared with only 2.4% among the controls. Mothers of stillborn babies had fewer attendances at the antenatal clinic and a longer interval between the last visit and delivery; 8% had no antenatal care and 34% tested positive for venereal disease. Of the stillborn infants, 56% were of low birth weight and 5% had some congenital abnormality. Statistical data are included. (SALUS)

815 **Weeks, R.M.** 1984. *A perspective on controlling vaccine-preventable diseases among children in Liberia.* Infection Control, 5(1), 538-541 (tables, 5 refs.) ISSN 0195-9417

§ During its early stages, the Expanded Program on Immunization (EPI) in Liberia experienced problems which included the high costs of maintaining mobile operations and a network of kerosene refrigerators. To improve vaccination coverage, EPI recently began to place greater emphasis on integrating activities into the existing infrastructure of hospitals, clinics, and health posts. The author argues that although the ambitious EPI goal and objectives have not yet been achieved, it is possible to immunize children and women in Liberia through developing local strategies, coordinating resources, and, most importantly, involving the community. (AU modified)

816 **Weiss, E.M.** 1982. *The Calabar rural maternal and child health/family planning project: the evaluation and research component.* International programs, working paper no. 16, Population Council, New York, US. (tables, figs.)

§ This a revised version of a part of the final report documenting the 5-year span of the Calabar Rural Maternal and Child Health/Family Planning Project established in the rural area surrounding Calabar, the Cross River State, Nigeria. The project was designed to demonstrate the advantages of integrating family planning with a strong and effective set of maternal and child health services in rural communities. This paper discusses the evaluation and research component of the project, exploring in depth the findings of its most significant study, "The project-wide maternal and child health/family planning survey." This large-scale household survey examined the nutritional and health status of the mothers and children in the project area, health practices, contraceptive and fertility behaviour, infant feeding practices, utilization of project services, and any associated effects on the health and health practices of the population under study. (AU)

817 **Wenlock, R.J., Wenlock, R.W.** 1981. *Maternal nutrition, prolonged lactation and birth spacing in Ethiopia.* Journal of Biosocial Science, 13(3), 261-268 (tables, fig., 30 refs.)

§ A survey of 375 Ethiopian mothers revealed that they were of average height but below average weight due to very low food energy intakes. This, combined with prolonged lactation (even by African standards) of 25-30 months and prolonged amenorrhea, resulted in exceptionally long birth intervals. Indeed, fewer children were born to the Ethiopian mothers at every age than to their Zambian counterparts. This paper presents the study findings and compares them to national data from Zambia. (SALUS)

818 **Wenlock, R.W.** 1978. *Age variation in prevalence of parasitic diseases in rural communities.* Medical Journal of Zambia, 12(1), 13-16 (tables, figs., map, 17 refs.)

§ Data on 7479 rural Zambians were analyzed to determine whether the incidence of the main parasitic diseases varies with the age of the population. Malaria was found to occur most commonly in young children, affecting 39.1% of those aged less than 5 years and declining thereafter. Bilharzia was not common in younger children but peaked by age 10 years at 19.5%. Hookworm prevalence reached 17.5% by age 1 year, peaked at 57.2% at age 10 years, and stabilized at over 40% in the adult population; a pronounced drop between the ages of 15 and 25 years is attributed to the wearing of shoes and, possibly, contact with the health services. (SALUS)

819 **Wenlock, R.W.** 1979. *Social factors, nutrition and child mortality in a rural subsistance economy.* Ecology of Food and Nutrition, 8, 227-240 (tables, 33 refs.)

§ The results of the National Nutrition Status Survey of Zambia are used to identify the major social and nutritional factors associated with child death rates in the rural areas. These appear to be the parity of the mother, ethnic group and educational attainment of the parents, and the father's occupation. The ethnic group influence is due to cultural factors rather than geographical environment factors associated with the area of the country in which the parents live. The main causes of death are malaria and malnutrition, malaria being the more lethal agent. Nutritional status appears to be less important than the major social factors governing a child's family environment. It is proposed that public health measures to reduce the prevalence of malaria may lead to a more emphatic decrease in death rates than any nutritional program. This should lead to a drop in the general fertility rate and hence stabilization of population growth. (AU modified)

820 **Wenlock, R.W.** 1980. *Nutritional risk and the family environment in Zambia.* Ecology of Food and Nutrition, 10, 79-86 (tables, 39 refs.) ISSN 0367-0244

§ The results of the National Food and Nutrition Programme of Zambia are used to identify the social factors in the family environment that affect the risk of anthropometrically defined growth failure and biochemical nutritional deficiency among children. A nationally representative sample of the rural populations comprising 2161 children aged under 5 years was studied. Statistical analysis of the data of the National Nutrition Status Survey showed that weight-for-height was the most comprehensive anthropometric indicator of long-term nutritional risk, and serum albumin was the most comprehensive biochemical indicator of shorter-term nutritional risk among these children. These two parameters were, therefore, used to identify the social factors involved in malnutrition. The main factors affecting nutritional risk were prolonged breastfeeding followed by abrupt weaning of the child at the onset of a new pregnancy; low maternal weight and height; and lack of parental education, poor employment opportunities, potentially harmful traditional cultural practices, and polygamous marriages. These interactions of social factors with nutritional risk are discussed in relation to other results from the program covering child mortality to provide a comprehensive description of malnutrition in rural Zambia. (AU)

821 **Wenlock, R.W.** 1981. *Endemic malaria, malnutrition and child deaths.* Food Policy, 6(2), 105-112 (33 refs.) ISSN 0306-9192

§ Past failures of nutrition programs could lead to disillusionment among governments with nutritionists unless realistic targets are adopted. High child death rates are due to both infection and malnutrition, both causes of high general fertility rates. A National Food and Nutrition Programme (1969-72) in Zambia examined malarial infections and undernutrition as causes of death in a sample population of 1534 mothers (with 7306 live births, 22.4% of whom had died), and a sample of 2161 children under 5 in rural Zambia. Where malnutrition was diagnosed in youngest children, significantly more siblings had died. However, positive malaria in the youngest child was associated with most sibling deaths; rates being always higher among children where it was detected. A reduction in malaria transmission is proposed as a more effective policy than any nutritional aim, other than that of increasing general food production. This would reduce death rates and population growth and increase the availability of family resources for each child. (AU modified) *

822 West, K.M. 1981. *Sierra Leone: practices of untrained TBAs and support for TBA training and utilization.* In Mangay-Maglacas, A., Pizurki, H., The traditional birth attendant in seven countries: case studies in utilization and training. Public health papers, no. 75, World Health Organization, Geneva, CH. 71-95 (tables, 9 refs.) ISBN 92 4 130075 2

§ Drawing on her experience of living and working with three traditional birth attendants (TBAs) over a 6-month period and a questionnaire administered to 22 TBAs, the author discusses the role, the knowledge, and practices of untrained TBAs, members of the Sande Society (the institution within which they practice), among the Mende of Sierra Leone. On the basis of high infant morbidity and mortality rates in the area, associated in many cases with the neonatal period (asphyxia, tetanus), she presents a case for further support for TBA training programs. Her argument hinges on the lack of funds within the health budget and the influential role of TBAs in their communities. The author outlines the objectives and logistics of an appropriate training program. (F.M.)

823 Westcott, G.M., Stott, R.A. 1977. *Extent and causes of malnutrition in children in the Tsolo district of Transkei.* South African Medical Journal, 52(24), 963-968 (tables, 8 refs.)

§ A survey of 193 children, under 5 years old, living in a rural Transkei village was carried out. It was found that 36% of the children were below the Boston third percentile (BTP) - including 57% of those children between the ages of 18 and 32 months - and that nearly 30% die before the age of 2 years. The relative importance of education, dietary understanding, and socioeconomic status in accounting for the situation is assessed. The most important factor associated with a weight below the BTP was an income of less than ZAR 30 per month. (AU modified)

824 Whitehead, R.G. 1976. *Some quantitative considerations of importance to the improvement of the nutritional status of rural children.* Proceedings of the Royal Society of London, 199(1134), 49-60 (figs., 12 refs.)

§ The importance of a detailed quantitative assessment of the existing dietary nutritional status of a community before the planning of an intervention program, as well as the subsequent evaluation of the short- and long-term effectiveness of the program, are emphasized. Practical problems surrounding the measurement of dietary intake of individuals and communities are considered and details of improved methodologies provided. Ways of assessing nutritional health status by clinical examination, anthropometry, morphology, and biochemistry are also dealt with and their individual shortcomings discussed. Another feature that is emphasized is the close relation between nutrient intake and the pattern of infection in determining nutritional status. Specific quantitative examples are provided from prospective longitudinal studies that have been carried out in Uganda and the Gambia. (AU)

825 Whitehead, R.G., Rowland, M.G., Cole, T.J. 1976. *Infection, nutrition and growth in a rural African environment.* Proceedings of the Nutrition Society, 35(3), 369-375 (figs., 17 refs.)

§ Studies of the interaction between infection and malnutrition in Ugandan children have shown that infection contributes greatly to muscle wasting and the consequent development of marasmus and can also make children more prone to kwashiorkor. Similar studies with rural children in Guatemala and the Gambia that attempted to quantify the effects of diarrhea and other diseases on physical growth have proven that diarrhea is another major health problem associated with protein-calorie malnutrition. Thus, nutritionists planning preventive programs must work within a wide public health framework involving factors other than diet alone. Furthermore, the physiological factors responsible for growth inhibition due to infection need additional study. These include the failure to absorb nutrients (as in the case of diarrhea) and reduced nutrient intake due to loss of appetite. In addition, infection can induce changes in hormone levels that tend to inhibit growth by lowering plasma insulin and raising plasma cortisol concentrations; the latter may lead to inhibition of the immune response and secondary, more serious infection. (SALUS)

826 Whitehead, R.G., Coward, W.A., Lunn, P.G., Rutishauser, I.H. 1977. *Comparison of the pathogenesis of protein-energy malnutrition in Uganda and the Gambia.* Transactions of the Royal Society of Tropical Medicine and Hygiene, 71(3), 189-195 (figs., 17 refs.)

§ The pattern of growth, biochemical and endocrine development, dietary intake, and disease patterns of rural children in Uganda and Gambia have been monitored during the first 3 years of life to gain a more complete understanding of the reasons why in Uganda kwashiorkor predominates, whereas in Gambia it is marasmus. Evidence is produced that supports the view that the hormonal balance, particularly cortisol and insulin status, can have a profound influence on which organs of the body are preferentially affected by malnutrition and hence on the type of protein-energy malnutrition that is likely to emerge. There were, however, also important differences in protein and energy intake between the two countries. (AU)

827 Whitehead, R.G. 1977. *Infection and the development of kwashiorkor and marasmus in Africa.* American Journal of Clinical Nutrition, 30(8), 1281-1284 (tables, figs., 5 refs.)

§ The author has attempted to discover why some African children suffering from malnutrition develop kwashiorkor, whereas others develop marasmus. Height and weight measurements were taken monthly and the period between measurements was searched for bouts of illness. Diet, with its seasonal variations, was closely monitored. The findings indicate that infection, particularly gastroenteritis and malaria, can have a profound effect on the development of both faltering growth and hypoalbuminemia. Statistical data are included. (SALUS)

828 Whitehead, R.G., Hutton, M., Müller, E.M., Rowland, M.G., Prentice, A.M. 1978. *Factors influencing lactation performance in rural Gambian mothers.* Lancet, 2(8092), 178-181 (tables, figs., 12 refs.)

§ Breast milk consumption was estimated in Keneba, a rural Gambian village, where breastfeeding on demand is universally practiced until children are 18 months of age. The mother's long-term capacity for producing breast milk was estimated by the second month of lactation; yield was closely correlated with the infant's birth weight. Other factors significantly influencing lactation were parity, month of lactation, baby's weight-for-age, season, and maternal diet. The infant's daily intake of milk was limited primarily by the amount delivered by feed and not by the frequency of feeding. (SALUS)

829 Whitehead, R.G. 1979. *Infant feeding practices and the development of malnutrition in rural Gambia.* Food and Nutrition Bulletin, 1(4), 36-41 (figs. tables, 23 refs.)

§ Malnutrition and growth retardation in Gambian children in the village of Keneba result from insufficient human milk due to maternal undernourishment and from weaning foods of poor nutritional quality. Growth progress in infants falters progressively after the third month. Although all Gambian mothers breastfeed their infants for up to 2 years, the quantity and quality of the milk does not meet babies' nutrient needs for adequate growth after the first 3 months. Food intakes of Gambian mothers are well below WHO/FAO standards. Supplementary weaning foods are low in energy, calcium, and vitamins; bacterial contamination is also a problem, particularly during the rainy season. Contaminated weaning foods contribute to the diarrheal disease in young children, aggravating their malnutrition. Solutions to these problems will require multiplicity of health care approaches. (CAB Abstracts)

830 Whittle, H.C., Rouland, M.G.M., Mann, G.F., Lamb, W.H., Lewis, R.A. 1984. *Immunization of 4-6 month old Gambian infants with Edmonston-Zagreb measles vaccine.* Lancet, 2(8407), 834-837 (tables, 22 refs.)

§ Five different vaccination schedules were used to immunize Gambian infants aged 4-6 months against measles with the attenuated Edmonston-Zagreb strain of virus, which has a history of passage in human diploid cells. None of the vaccinated children had clinical evidence of measles in the 12 to 17 months after the vaccination. The Edmonston-Zagreb vaccine, given subcutaneously or by other routes at 4-6 months, may be useful in preventing measles in infants in African cities, where 15-30% of children have measles before they are 9 months old, the recommended age for immunization with the chick-cell-adapted strains of measles virus. (AU abbrev.)

831 WHO (World Health Organization), 1976. *Remarques concernant les enquêtes spéciales sur la mortalité foetale, infantile et juvénile et sur les tendances de la fécondité. Commentary on the ad hoc surveys on foetal, infant and early childhood mortality and fertility patterns.* World Health Statistics Report, 29(8), En

439-457, Fr 458-477 (tables, 7 refs.)

§ Le but principal des enquêtes spéciales est de permettre des estimations scientifiquement valables des niveaux et des tendances de la mortalité chez les enfants en bas âge et les jeunes enfants et de la fécondité ainsi que de fournir des renseignements utiles sur les facteurs qui déterminent ces niveaux et ces tendances. Le présent document donne une description préliminaire de la conception du programme, avec des renseignements de base sur celui-ci et sur ses principaux objectifs. Il indique à grands traits le plan de l'étude et le programme de réalisation du projet, y compris le contenu des enquêtes, la collecte des données, le dépouillement de celles ci et les techniques d'analyse. Un rapport spécial sera publié sur les enquêtes relatives à chaque pays (Sierra Leone, Soudan, Afghanistan, Algérie, Trinidad et Tobago) lorqu'elles seront terminées. (AU modifié) *

832 WHO (World Health Organization), Kenya, Ministry of Health, 1977. *Measles immunity in the first year after birth and the optimum age for vaccination in Kenyan children.* Bulletin of the World Health Organization, 55(1), 12-31 (tables, 17 refs.) Fr

§ This 1974-75 Kenyan study was undertaken to determine the optimum age for mass vaccination programs in developing countries, where the incidence of measles is higher among infants than it is in developed countries. It was found that, because 90% of children no longer have their maternal antibodies at 7-8 months of age, 30 weeks could be considered the optimum age for vaccination in countries with conditions similar to those of Kenya. It can reasonably be expected that immunity after the age 1 year will last for 3-5 years, thus exceeding the period when African children are most exposed to malnutrition. Statistical data are included. (SALUS)

833 WHO (World Health Organization), 1979. *Traditional practices affecting the health of women and children: female circumcision, childhood marriage, nutritional taboos.* WHO-EMRO technical publication no. 2, Report of a seminar Traditional practices affecting the health of women and children, Khartoum, SD, 10-15 Feb. 1979. WHO, Alexandria, EG . 170 p. (figs., tables, refs.)

§ This report summarizes the general proceedings, discussions, and recommendations emanating from the seminar. The topics are summarized under the following headings: nutritional taboos and traditional practices in pregnancy and lactation, including breastfeeding; female circumcision; and child marriages and early teenage childbirth. (F.M.)

834 WHO (World Health Organization), 1980. *Infant and early childhood mortality in relation to fertility patterns: Report on an ad-hoc survey in greater Freetown, the western area and Makeni in the Northern Province, Sierra Leone, 1973-1975.* Ministry of Health, Freetown, SL, and WHO, Geneva, CH. 182 p. (tables, figs., 102 refs.)

§ Data on the demographic, biological, and environmental factors affecting the health status of mothers and children as well as child mortality were collected in a 1973-75 survey of 15,053 persons living in 3229 households in urban and suburban parts of Freetown and rural populations in the western area and Northern Province. Both retrospective and prospective surveys were used. The survey methodology is described and the findings are presented in statistical tables and discussed under the headings of: housing and environmental conditions; fertility levels, patterns, differentials, and as related to marital status and age; morbidity; mortality; and child care. Analysis of these statistics yielded a crude birthrate of 42.2 and a death rate of 17.6 per 1000 population with an infant mortality rate of 150 per 1000 live births. Improvements in local vaccination programs are recommended. (SALUS modified)

835 WHO (World Health Organization), Sudan, Ministry of Health, 1981. *Infant and early childhood mortality in relation to fertility patterns: report on an ad-hoc survey in Greater Khartoum and in the Blue Nile, Kassala and Kordojan provinces, 1974-1976.* Ministry of Health, Khartoum, SD and WHO, Geneva, CH. 165 p. (tables, 34 refs.)

§ The ad hoc survey of infant and childhood mortality in Sudan was an attempt to measure levels, trends, and the determinants of mortality and morbidity in infancy and childhood in Khartoum and in selected rural areas of Blue Nile, Kassala, and Kordofan Provinces. The method of the survey was to conduct a single-round retrospective survey of households, followed by a prospective survey, which consisted of a series of three-monthly visits to those households covered by the retrospective survey. In the prospective part of the survey the progress of pregnant women, deliveries, and the development of all children under 5 years of age were monitored. This report contains two introductory chapters that draw together the relevant background information on the Sudan, and in particular the four survey provinces. Four chapters follow that deal directly with the results of the survey, namely the organization and execution of the survey, the characteristics of those persons and households in the sample, their housing, environment, and child-care practices, and finally the mortality and morbidity experience of their children. Throughout, frequent comparisons are made with the 1973 population census results to assess the extent to which the survey population differed from the broader population from which it was drawn. (AU abbrev.)

836 WHO (World Health Organization), 1981. *Contemporary patterns of breast-feeding: report on the WHO Collaborative Study on Breast-feeding.* WHO, Geneva, CH. (tables, figs., refs.)

§ The WHO Collaborative Study on Breast-feeding was undertaken because of concern over the erosion of traditional breastfeeding patterns in the Third World. The study had two objectives: to determine contemporary breastfeeding practices and to measure the volume and composition of breast milk. This report of the first phase of the study describes the prevalence and duration of breastfeeding among different socioeconomic and cultural groups in nine countries, the aim being to provide a basis for effective and appropriate programs designed to improve infant feeding practices. The organization of health services, health legislation, and the marketing of breast milk substitutes are briefly considered. Statistical data are included. (SALUS)

837 WHO (World Health Organization), 1982. *Expanded programme on immunization: cost-effectiveness (Ivory Coast).* Weekly Epidemiological Record, 57(22), 170-173 (tables) ISSN 0049-8114

§ This report is restricted to a preliminary assessment of the cost-effectiveness of the measles component of the WHO program in Côte d'Ivoire. It considers program effectiveness and expenses, estimates added years of life, and analyzes costs per infant, vaccine, cases averted, and deaths averted. The recurrent costs of a national program are projected. Statistical data are included. (SALUS)

838 1983. *Health, population and development.* In World population trends and policies: 1983 monitoring report (preliminary version). Department of International Economic and Social Affairs, United Nations, New York, US. pp. 611-618 IESA/P/WP.82/Add.1

§ In this chapter, the general relationships between health, population, and development are identified. In particular, the focus is on primary health care; indicators to monitor progress toward the goal of Health for All by the Year 2000; recent major health trends; and the outlook for the future. (F.M.)

839 WHO (World Health Organization), 1983. *Apartheid and health.* World Health Organization, Geneva, CH. 258 p. (tables, references) ISBN 92 4 156079 7

§ The book is organized in two parts. The first contains the report of an international conference held at Brazzaville, People's Republic of the Congo, 6-20 November 1981. Included are: opening statements, an outline of the main themes of discussion (health or apartheid, analysis of the health care delivery system in South Africa, and the relationships between apartheid and maternal and child health, workers' health, and mental health); recommendations; a strategy for health for all by the year 2000 in the African region; and the Brazzaville Declaration. The second part of the book consists of: "The health implications of racial discrimination and social inequality: an analytical report to the conference." Chapters on the following are included: the nature of apartheid; origins of South African society and its health care system; living conditions and patterns of disease; the extent and effects of malnutrition; the impact of apartheid on psychosocial development; occupational health and disease; and the politics of health care. (F.M.)

840 Williams, P.J., Hull, H.F. 1983. *Status of measles in The Gambia, 1981.* Reviews of Infectious Diseases, 5(3), 391-394 (tables, fig., 9 refs.) ISSN 0162-0886

§ Measles registries were instituted in all rural health facilities in Gambia from January through December 1981. House-to-house surveillance of three infected villages revealed a 7% acute case fatality rate. Infected villages were followed up until December 1981. Finger-prick specimens of blood, complete measles history, and vaccination status of 380 children aged 6 months to 5 years were studied. Data on children from the area with the lowest coverage for measles vaccination in 1980 were collected and analyzed. Of the 60% of children who were vaccinated, 75% seroconverted, while 8% reported measles infection after immunization. Gambia's immunization program is composed of static immunization units with outreach stations and rural health workers in immunization services. The strong faith of mothers in the maternal and child health services, coupled with the commitment of the health workers in Gambia, is helping to provide important leadership in the struggle to attain global control and eradication of measles by the year 2000. (AU)

841 **Winikoff, B.** 1983. *The effects of birth spacing on child and maternal health.* Studies in Family Planning, 14(10), 231-245 (figs., 21 refs.)

§ Literature on the effects of birth spacing on child mortality, child morbidity, and maternal health and mortalty is reviewed and critically assessed in this article. The author argues that the health effects of birth spacing remain relatively obscure despite the frequent calls for spacing pregnancies to achieve better health. One of the reasons for this situation is that studies have not controlled for confounding factors including socioeconomic factors and prior child deaths. The author draws attention to specific areas of research that need to be addressed before the effects of birth intervals can be accurately assessed. (F.M.)

842 **Winikoff, B., Laukaran, V.H.** 1984. *Patterns of infant feeding in 4 urban areas: Bangkok, Bogota, Nairobi and Semarang.* In The determinants of infant feeding practices: preliminary results of a 4-country study. International programs working paper no. 19, Population Council, New York, US. pp. 7-30 (tables, figs.)

§ To provide background information necessary to analyze the factors influencing infant feeding practices, the paper provides information on the initiation, duration and pattern of breastfeeding and the pattern of supplementing breastfeeding. Findings indicate that of the 4000 women studied in the four cities, rates of initiation of breastfeeding are highest in Nairobi and exclusive breastfeeding is more commonly practiced here. Analysis of the data supports the hypothesis that feeding patterns vary with socioeconomic status, education, and urbanization. (F.M.)

843 **Winikoff, B., Latham, M.C., Solimano, G.** 1986. *The infant feeding study: Nairobi site report.* Report submitted to AID by the Population Council (contract no. AID/DSAN-C-0211), 138 p. (tables, figs.)

§ This report is part of a larger study begun in 1979 to explore the determinants of infant feeding practices in Thailand, Colombia, Indonesia, and Kenya. The central objective of the study is to investigate the significance of a broad range of biological, social, cultural, and economic factors on infant feeding practices to determine the nature and magnitude of their contribution to the problems of infant nutrition. The variables included the role of health professionals, infant food marketing and distribution strategies, and women's labour force participation. The approach included, in Nairobi, a large cross-sectional survey (980 infants) and coordinated studies on ethnography (including an ethnography of medical infrastructure); marketing; and government policies regarding infant feeding. (AU abbrev.) *

844 **Woodruff, A.W., Adamson, E.A., El Suni, A., Maughan, T.S., Kaku, M., Bundru, N.** 1983. *Infants in Juba, southern Sudan: the first six months of life.* Lancet, 2(8344), 262-264 (tables, figs., 14 refs.)

§ A prospective survey of child health in Juba has been continued until the infants were 12 months old. They were visited monthly or more often if unwell. During the second 6 months of life six died; these deaths, added to the nine that occurred in the first 6 months, produced an infant mortality rate of 11.8%. Diarrhea was the whole or a partial cause of 11 of the 15 deaths in the first year. Growth in length by 12 months was satisfactory but the mean weight of the study infants was then at the third centile for healthy girls. Head circumference at 12 months was below normal and poor development was associated with the smaller head circumferences. Supplementary feeding had been started for all babies by the 12th month but only 4 of 127 had been weaned. The 30 documented attacks of diarrhea that took place before supplementary feeding was started suggested that water given to infants is often contaminated. (AU)

845 Woodruff, A.W., El Bashir, E.A., Yugusuk, A.Z. , Grant, J., Baya, E.I. 1984. *Neonatal tetanus: mode of infection, prevalence, and prevention in southern Sudan.* Lancet, 1(8373), 378-379 (8 ref.) ISSN 0140-6736

§ Neonatal tetanus is a major killer in southern Sudan. This article deals with the prevalence, mode of infection, and prevention of the disease, with special reference to the town of Juba. It was felt that the high prevalence of neonatal tetanus (1 : 82 newborns) was due to the traditional practice of cutting the umbilical cord with a tough blade of grass rather than with a sterile metal blade. It is suggested that governments and other agencies distribute to women and midwives kits containing a sterile razor blade, a sterile ligature, two or three sterile adhesive dressings for the umbilical stump, and two or three sterile swabs. Immunization is desirable but difficult because much of the population is scattered or migratory. Statistical data are included. (SALUS)

846 Woolfe, J.A., Wheeler, E.F., van Dyke, W., Orraca-Tetteh, R. 1977. *Value of the Ghanaian traditional diet in relation to the energy needs of young children.* Ecology of Food and Nutrition, 6(3), 175-181 (tables, 11 refs.)

§ The energy intake at individual meals and the energy densities of traditional foods consumed by Ghanaian children aged 1-3 years were studied at a village and an orphanage. In both locations, a wide range of food intakes and food energy densities was found and there were children who consumed more than the FAO estimated energy requirement of 1220 kJ (28 kcals)/kg at single meals. The maximum weight of food consumed at a meal was around 40 g/kg. It is concluded that the traditional Ghanaian diet can adequately satisfy a healthy child's energy needs without the addition of milk and other Western foods. Statistical data are included. (SALUS)

847 World Fertility Survey, 1983. *The Cameroon Fertility Survey. 1978: a summary of findings.* World Fertility Survey, no. 41, International Statistical Institute, The Hague, NL. 15 p. (tables)

§ The results of the Cameroon Fertility Survey, which collected data from 9137 women aged 15-54 years, are discussed. With respect to mortality, the data indicated: a decrease in infant and child mortality over the last 25 years, but mortality remains high; an excess of male mortality, 115 deaths before 1 year of age per 1000 male births, compared to 94.6 deaths per 1000 female births; infant mortality is inversely related to maternal education, being twice as high for women with no formal education compared to those with secondary or higher education; and infant mortality is higher in rural than urban areas. (F.M.)

848 World Fertility Survey, 1984. *World Fertility Survey: major findings and implications.* International Statistical Institute, London, GB. 61 p. (tables, refs.)

§ This report summarizes the main results of the World Fertility Survey (WFS) carried out over a period of 12 years in 62 countries. The three substantive sections of the report focus on the following areas: WFS origins and achievements; findings as these relate to fertility levels, trends, and differentials, marriage patterns, contraception, reproductive motivation, child spacing, breastfeeding, maternal and child health, infant and child mortality; and policy implications (fertility decline and development, family planning, marriage postponement, promotion of breastfeeding, health services). (F.M.)

849 Wunsch, G. 1982. *Santé de la mère et de l'enfant dans le Tiers-Monde : problèmes de collecte des données.* Population et Famille, 53, 19-33 (tables, fig., 4 réf.) En

§ L'étude examine les diverses méthodes de collecte des données sur la santé de la mère et de l'enfant dans le Tiers-Monde, en vue de relever les avantages et désavantages de chacune d'elles. La conclusion qui se dégage est de favoriser une approche intégrée des faits à collecter, dans le cas d'une enquête à passages répétés à objectifs multiples. L'avantage réside notamment dans l'utilisation de données issues du même univers statistique, facilitant ainsi le couplage des données provenant des divers questionnaires utilisés. (AU)

850 Zumrawi, F., Vaughan, J.P., Waterlow, J.C. , Kirkwood, B.R. 1981. *Dried skimmed milk, breast-feeding and illness episodes - a controlled trial in young children in Khartoum Province, Sudan.*

International Journal of Epidemiology, 10(4), 303-308 (tables, 6 refs.)

§ In a controlled trial, mothers and children attending urban maternal and child health clinics in Khartoum Province were given a fortnightly take-home food supplement of 1 kg of dried skimmed milk (DSM) or an equivalent amount of local beans. There were approximately 300 children aged 6-26 months in each group and each child was followed for 3-6 months. A comparison of the two groups showed: that the DSM group mothers were more likely to continue breastfeeding; that there was no evidence to associate DSM with an increased incidence of episodes of diarrhea, fever, or vomiting; that the utilization of health institutions was very similar in the two groups; and that there was no significant difference in the mothers' assessment of the proportion of children with a poor appetite in either group. This trial met with considerable methodological problems and the results should therefore be interpreted cautiously. There is a great need for more and better designed trials to assess the possible adverse effects of DSM. (AU)

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Head Office
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Regional Office for Southeast and East Asia
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